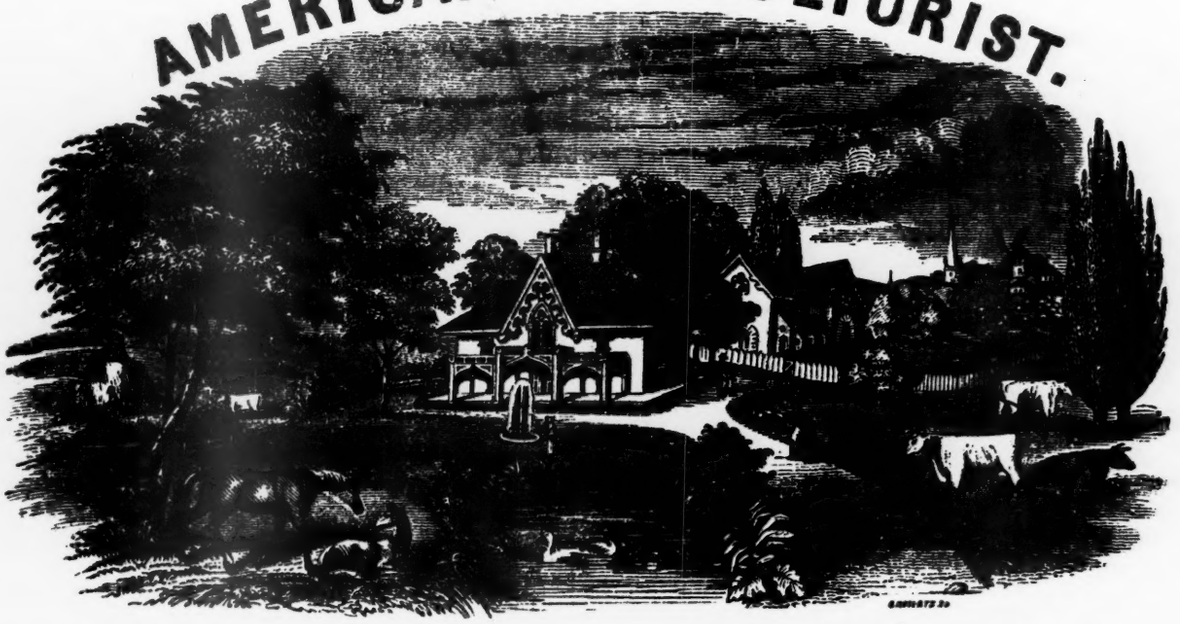
AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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CULTIVATION OF THE SWEET POTATO.

THE sweet potato (*Batatas edulis*), or some allied species, is a native of both Indies, and is now cultivated everywhere within the tropics, and is common to be met with in each of the temperate zones. There are numerous varieties, differing from each other, in the size, shape, color, and taste of the roots, as well as in the form, hairiness, or smoothness of the leaves, and color of the flowers. In the warmer parts of Asia, Africa, inter-tropical America, as well as in some of the southern states of the Union, the red-rooted varieties are in general cultivation, which are very deservedly esteemed for their large size, sweet flavor, and nutritious qualities; while in the temperate parts of Europe and of North and South America, the white and yellow-rooted sorts are almost exclusively raised.

In warm climates, this plant is cultivated in a similar manner as the common potato is with us, but requires much more room; for the trailing roots extend four or five feet each way, often sending out forty or fifty large tubers to a plant. In the middle and northern states of the Union, the potatoes should be planted in March or April, in a hot bed, or some other warm place, where, in two or three weeks, they will throw out a number of runners or sprouts, which, as soon as they reach a height of three or four inches above the surface, are taken off, transplanted into hills four or five feet apart, in open ground, where the soil is light, rich, and properly prepared, and subsequently may be hoed, earthed up, or treated in other respects like the common potato. The tubers may be dug and eaten as soon as they are large enough for use; but those intended for winter keeping, should not be disturbed before the vines are dead. In order to keep them during winter, until spring, they should be dried in the sun until the moisture is driven off, sweated in the heap, and when dry, packed in dry sand and stored in a cool cellar, not subject to wet nor frost.

Sweet potatoes are considered a much lighter food than the common kind, and are equally nutritious. The young leaves and tender shoots are often boiled as pot herbs, and are esteemed as a wholesome food.

NOTES ON LONG ISLAND.—No. 1.

LAST July we had the pleasure of passing a week at Oyster Bay, and some of the adjoining towns of Long Island. We were domiciled for the time at the hospitable mansion of Mr. Daniel Youngs. His eldest son, Mr. Daniel K. Youngs, with a kindness and attention which we shall not soon forget, devoted his whole time, while we were there, to showing us the best system of farming practised in that part of the country. Had not so much already been said about Long Island in this journal, we could write out a long and interesting story of what we there saw and heard. As it is, we shall be obliged to confine ourselves principally to such short details as have not yet appeared.

Farm of Mr. Daniel Youngs.—We shall commence with a short sketch of the farm of our hospitable host. It comprises about 300 acres, generally of a light, loamy, or gravelly soil, though some fields are of a heavy loam, abounding more or less with loose stones of a suitable size for making walls. The farm lies partly on Oyster Bay, and partly on a fine ridge between it and Cold Spring Harbor. The situation is commanding and delightful. The house was erected in the year 1650, being the first built in the place. It was honored by receiving General Washington as a guest for one night, while on a tour through Long Island after the revolution. The inmates of the house still remember and practice the useful instructions that this great and good man then gave them in farming.

In order to show our readers the marked improvements which have taken place in farming on Long Island, we will relate what was told us by Mr. Youngs. Some 40 to 45 years ago, the general system practised on his own farm and around him, was, the first year to plow up the sod in the spring and plant corn without manure. From this they obtained 12 to 15 bushels per acre. Rye was sown broadcast, and harrowed in among this corn, in the month of August, and the following year produced 9 to 12 bushels per acre. Then the fields were allowed to be grown over with the natural grasses and weeds, and were pastured five or six years, by which time they got so well recruited, that they might be plowed again with the prospect of producing another crop of 12 to 15 bushels of corn per acre. The little manure which was made in the stables and yards, was usually devoted to a few acres of meadow land adjoining the farm buildings. These produced fair crops of hay, which were the main dependence for wintering the stock.

How changed now is this system. Swamps, the former products of which were nothing but frogs and alder bushes, have been drained, and found to abound from one to five feet deep with a rich, black muck, which will produce large crops of hay and corn, &c., for a series of years without manure; fish have been caught in great numbers and applied to the land; sea weed has been gathered in large quantities for the compost heaps; while thousands of bushels of ashes, and sloop load after sloop load of city manure from New York, have been transported thither, and recently guano to some extent. And what is the result? Why, the same land that formerly averaged only half a ton of hay to the acre, now cuts 2 to 3 tons; corn which produced not over 10 to 15 bushels per acre, now yields from 35 to 60—and the smaller grains and roots have increased in like proportion. But much larger isolated crops have been raised than these. For example, Mr. Daniel K. Youngs, has raised 80 bushels of oats and 100 bushels of corn per acre, and 550 bushels of carrots on half an acre. Mr. Thomas F. Youngs, raised on one acre of drained swamp 123½ bushels of corn. Mr. Jacob Smith, of Centre Island, raised 400 bushels of wheat on ten acres, and a single acre produced him 50 bushels. We could enumerate many an acreable production equal to the above. The quantities were not *guessed* at either.. With these increased productions other improvements have gone hand in hand, such as better fences, and buildings, &c.; for Long Island farmers tell us the general result of this system of liberal manuring is, that the more manure they purchase the more they are able to buy and make at home. We have no doubt that their outlays for manure yield them from ten to one hundred per cent. We will recount one instance of liberal manuring. A friend of ours, who began life with less than one thousand dollars, and who has brought up reputably and well educated, a large family, and has now become rich from the profits of farming alone, informed us, that one season he expended $900 for city manure, all of which he put on twenty acres of land; that he had not a doubt but this manure increased the hay product of that field at least one and a half tons per acre, but he would only calculate it at one ton. Hay was then worth for a series of six years the average price of $15 per ton; thus he realized $1,800 more within that six years than he otherwise would have done, had he not purchased the manure. He calculated that the grass this field produced, which he fed off after mowing, was an equivalent for the extra expense of cutting and marketing this extra ton per acre; and the land at the end of the six years was in much better condition than it was before he put on the $900 worth of manure. It is true, that hay for the past few years has not paid so well; but that does not operate against the general experience of the farmers of this part of Long Island, that the more manure they judiciously purchase, the greater their profits.

In addition to managing their farm in a superior manner, the sons of Mr. Youngs are devoting considerable attention to fruit and garden vegetables for the city market. They have just begun a vineyard of some extent. The vines are trailed upon trellises and promise well.

Their system of raising calves is excellent. In the first place, they have taken pains to procure a good breed of cows—high grade Durhams. The calves are not permitted to suck, but are fed new milk the first week or two. After this, they have a mixture of new and skim milk for the same length of time, then skim milk alone, till six or eight weeks old. All this time they are suffered to run in a grass pasture, and at the end of a month and a half, or two months, they become so accustomed to eat grass, which should be sweet and tender, that they henceforth take care of themselves without further resort to the milk pail. These are permitted to bring calves the spring they are two years old, at which time, such is the early maturing qualities of the Durham breed, they will have attained the growth of good sized cows. Under this system, and by breeding from good milking families of male and female, their heifers almost universally make good milkers.

Farm of Mr. Thomas F. Youngs.—This farm lies a little back of Oyster Bay, running down to Cold Spring Harbor, and comprises about 400 acres in one body. It is certainly one of the most beautifully situated and highly cultivated on Long Island. The buildings, also, are very fine and commodious. The rotation and crops here, are similar to those of the best farmers of Long Island, heretofore described in this paper. Mr. Y. has been uncommonly spirited in his improvements. He has drained a large swamp, which previous to his possession of the farm, had never produced anything of value. It was here where he grew the second year after draining it, 123½ bushels of corn per acre. It is now one of the richest and most productive fields on the island. These are the improvements that we so much like, and which add largely not only to the productive wealth, but to the general health of the country. How many fœtid pools, and fever and ague marshes still pervade the state, which if drained and cultivated, would become mines of wealth to their owners!

Mr. Y. pays considerable attention to fruit, and has very fine and thrifty orchards. His apples are considered among the largest and best raised on Long Island. His stock of cattle is superior. They are Durhams, descended chiefly from the importa-

tions of Mr. Charles Henry Hall of New York. The cows are noble animals, well bred, and excellent milkers.

Farm of Mr. Joseph Latting.—This is one of the few farms on Long Island which is still chiefly devoted to the production of wool. Formerly large flocks of fine-wooled sheep were kept here; but the low price of the article, in consequence of the great competition from the boundless prairies of the west, has obliged the farmers here, generally to relinquish the wool-growing business for something more profitable. Mr. Latting's farm contains 150 acres. His flock is composed of about 300 Saxon sheep, which are among the largest and strongest of this breed we have yet seen. Their wool is fine, and the fleeces average 2¾ lbs. per head. His system is to plow up sod in the spring, which has been pastured a few years by the sheep; on this he sows oats or wheat and gets good crops. He raises his own corn, hay, &c., and sells wool to the amount of $300 per annum. This is his chief selling product. The farm is in fine condition and well managed. The buildings are excellent and surrounded by large thrifty orchards.

Locust Groves.—While on the subject of sheep, it may not be unknown to our readers, that locust groves may be grown on very poor soil, averaging from $4 to $7 worth of timber per annum, per acre, and still yield as much grass for sheep as if no trees grew there; and all this time the land is becoming richer rather than poorer. The reason of this is, that if the light sandy soil is not covered with shade trees, the grass, except during a very wet season, dries up and yields little. The trees keep the ground cool and moist, and the grass continues growing all summer. We are of opinion that if a top dressing of two or three bushels per acre of plaster of Paris were sown early in the spring, it would add considerably to the grass product. We have known instances of locust groves on Long Island, growing up to be worth $300 per acre, within forty years. Nothing can exceed their beauty and comfort as sheep pastures.

APPLE ORCHARDS.—No. 6.

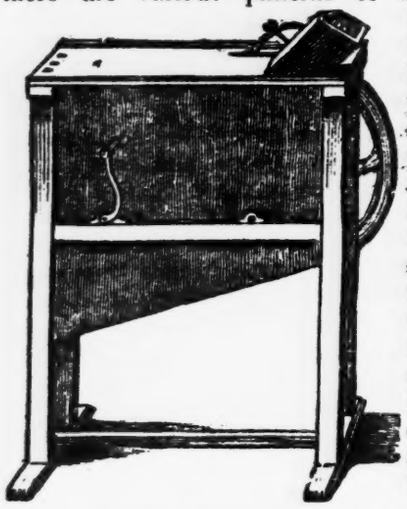
Accidents, Diseases, &c.—The apple tree, as a standard, is more liable to accidents, the attacks of insects, and to diseases, than the pear tree. Its branches are more frequently broken by tempestuous winds, whereby their wounded parts, in being exposed to the vicissitudes of the weather, sooner decay, and tend greatly to lessen the productiveness and duration of the tree. When situated near the borders of woods, orchards are often injured by the American grouse, or partridge (*Tetrao umbellus*), which greedily devours the flower buds, in winter, when the ground is covered with snow. The apple tree is also subject to canker; more especially when planted deep, or in a soil which is annually dug round it to some depth, and cropped with vegetables. In some soils, also, particularly those which contain much oxide of iron, the tree is liable to canker under any mode of culture; and the remedy, or palliative, in such soils, is liming abundantly, to neutralize the oxide; and planting on the surface, without digging the ground, but only hoeing, or keeping it entirely in pasture. The trunk and branches in some soils, and in moist situations, are liable to be infested with lichens and moss, which must be scraped off; and in others, the mistletoe is apt to take root, which must be cut out. The fungus (*Æcidium cancellatum*), which also grows on the leaves of the pear tree, and produces what is called *mildew*, is not unfrequent on those of the apple tree.

American Blight.—The leaves, flowers, fruit, and wood of the apple tree are subject to the attacks of numerous insects, or their larvæ, against which there are few or no remedies. One of the most common enemies to this tree in Europe, particularly in England, is the cotton insect, or woolly aphis (*Aphis lanigera*, of Linnæus and *Eriosoma mali*, of Leach). This insect was first described by Hausmann, in 1801, as infesting the orchards of Germany; but it was noticed in England as early as the year 1787, and has since acquired in that country, though improperly, the name of "American blight," from the belief that it had been imported from America. Although it exists in the United States, it is exceedingly rare; but it is thought not to be indigenous, but was brought to this country on fruit trees from Europe. It appears to have been known, also, by the French gardeners for a long time previous to either of the above named dates; and according to Mr. Rennie, it is found in the orchards in the vicinity of Harfleur, in Normandy, and is very destructive to the trees in the department of Calvados. The eggs of this insect are so small that they cannot be distinguished without the aid of a microscope. They are enveloped in a cotton-like substance, furnished by the body of the insect, and are deposited in the forks of the branches, and in the chinks of the bark, at or near the surface of the ground, especially if there are suckers springing from that place. The young, when first hatched, are covered with a very short, fine down, and appear, in the spring of the year, like so many little specks of mould. As the season advances, and the insects increase in size, their downy coats become more distinct, and grow in length daily. This down is very easily removed, adheres to the fingers when touched, and appears to issue from all the pores of the skin of the abdomen. When fully grown, the insects of the first brood are one tenth of an inch in length, and, when the down is rubbed off, the head, antennæ, sucker, and shins, are found to be of a blackish color, and the abdomen of a honey yellow. The young are produced alive during the summer, are buried in masses of the down, and derive their nourishment from the sap of the bark and of the alburnum or young wood directly under the bark. The adult insects, it is said, never acquire wings nor honey tubes, but from time to time, they emit drops of an adhesive fluid from the extremities of their bodies. Although destitute of wings, they are conveyed from tree to tree by means of their long down, which is so plentiful and so light, that they are easily wafted by the winds of autumn, and thus the evil will gradually spread throughout an extensive orchard. The numerous punctures of these insects produce on the tender shoots a cellular appearance, and wherever a colony of them is established warts or excrescences arise on the bark; the limbs thus attacked, become sickly, the leaves turn yellow and drop off; and, as the infection

spreads from limb to limb, the whole tree becomes diseased, and eventually perishes. A writer in the London "Entomological Magazine" describes the mode of propagation of this insect, and gives a method of destroying it as follows:—"These blights wander wherever it pleases the wind to carry them; and, if bad luck should drive one of them against the branch of an apple tree, there it will stick, creep into a crack in the bark, bring forth its young, and found a colony. The white cotton soon appears in large bunches; branch after branch becomes infected; the tree grows cankery, pines, and dies. How this is effected, no one knows, though the cause and effect are too evident to escape the notice of the commonest clown. In large orchards, it is vain to hope for a cure; but not so in gardens. Directly you see the least morsel of cotton, make up your mind to a little trouble, and you will get rid of it. In the first place, get a plasterer's white-washing brush; then get a large pot of double size; make your man heat it, till it is quite liquid; then go with him into the garden, and see that he paints over every patch of white, though not bigger than a sixpence; the next morning have the size pot heated again, and have another hunt; and keep on doing so every morning for a fortnight. Your man will tell you it's no use—tell him that's your business not his. Your neighbors will laugh at you for your pains—do it before they are up. I have tried it, and know it to be effectual. Spirit of tar has been used with partial effect; so also has resin. White washing has been often tried, and, as it contains some size, is not entirely useless; and some horticulturists think it ornamental—I do not."

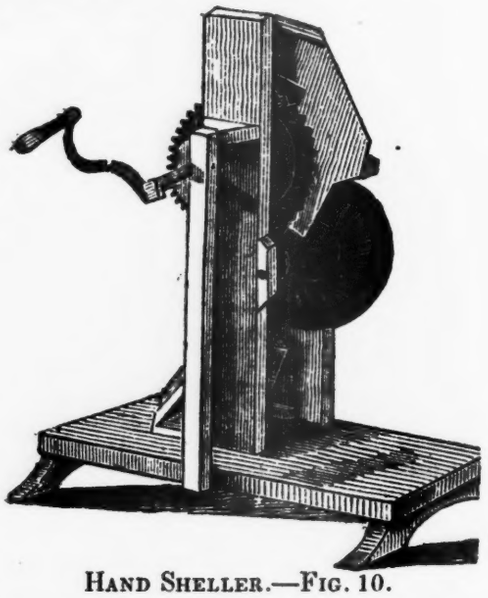
CORN SHELLERS.

Numerous have been the attempts to construct a machine which shall supersede the old fashioned mode of separating the kernel from the corn cob, by means of the long handle of a frying pan, or the blade of a shovel laid across a tub; but they have nearly all been objectionable either from total inefficiency, or from the liability constantly to get out of repair. Among a great number, however, there are various patterns of different capacities and prices, both to turn by hand or stronger power, which successfully perform their work. The kind in most common use, is a hand sheller, sometimes made only with cast iron frames, while at others, the shelling plate is encased in wood, as denoted by Fig. 9.



Hand Corn Sheller.—Fig. 9.

This machine is preferable to the former, as any one can repair it when broken, and the grain does not fly, or scatter, as it is shelled, as it does without the case. It will shell from 100 to 150 bushels of corn per day, when operated only by one man. Price from $6.50 to $7.50.



Hand Sheller.—Fig. 10.

There is another kind of sheller, denoted by Fig. 10, which has been somewhat in use, and considered as a very efficient hand machine; but it is much less perfect in its operations than the one described above. Price from $7 to $7.50

CULTURE OF ASPARAGUS.

The finest asparagus produced in this vicinity, or at least that which brings the highest price in our markets, is grown by Mr. Daniel Smith, at Matinecock, Long Island. The asparagus bed contains about three acres, and lies on the bay, about ten feet above high-water mark.

The method of culture is simply thus: Early in March, Mr. S. cuts off the tops of the asparagus, and then gives the land a thick coat of barn yard or city manure. As soon after the frost is out, and the ground is dry enough, he plows up the whole field about nine inches deep, just as he would any field for a crop of corn, and without regard to cutting the asparagus roots. He then harrows and rolls the field, leaving the asparagus to shoot up at will.

The variety of asparagus which Mr. S. cultivates, he thinks highly of; but we are of opinion that the soil and situation happen to be exactly of the right kind to produce a first rate article. It is a free, deep, rich loam, unquestionably well impregnated with salt. It ought to be analyzed as well as the asparagus plant. We should then know what constitutes a good asparagus soil. Will not some rich citizen, who is particularly fond of asparagus, contribute a few dollars for such an analysis? How many thousands of dollars are annually thrown away in this city, on miserable tom-fooleries, which might be expended in the advancement of the science of horticulture.

Any of our readers desirous of tasting this asparagus, will find it at Clark & Brown's, Maiden Lane. A single bunch of thirty shoots unfrequently weighs 4½ lbs.

GROWING FIGS AT THE SOUTH.

A CORRESPONDENT in Alabama inquires of us the method of drying figs for the market. He says that this delicious fruit grows spontaneously in his vicinity, and thinks that it may in future become a profitable article of culture. We give below the modes generally adopted in the south of Europe, and should feel obliged to any of our southern friends for such practical information on the subject as may be in their power to impart.

Those figs that are intended to be dried, are left on the tree till they are dead ripe, which is known by a drop of sweet liquid hanging from the eye. As soon as they are gathered, they are placed on wicker hurdles, in a dry, airy shed; and, when the dew is off, they are exposed every morning to the sun, during the hottest part of the day. In order to facilitate the progress of drying, the figs are occasionally flattened with the hand. In moist, dull weather, they are spread out in rooms warmed by stoves. When they are thoroughly dried, they are packed in layers, in rush baskets, or in boxes, alternately with straw and laurel leaves, and in this state they are sold to merchants, who afterwards assort them and pack them more carefully in boxes or drums. In some parts of France, figs are cured by first dipping them in a hot ley, made from the ashes of the fig tree, and then dried, the use of the ley being to harden their skins.

CULTIVATION OF THE OSIER.—No. 1.

THE cultivation of the willow for the purposes of basket making, wicker work, &c., was practised by the Romans in a similar manner as it is throughout Europe and North America at the present day; and it is a remarkable fact, that basket making of very elegant workmanship, was one of the few manufactures in which the ancient Britons excelled at the time their island was invaded by Julius Cæsar. A crop of osiers was considered so valuable in the time of Cato, that he ranked the willow field next in value to the vineyard and the garden.

The culture of the willow for basket making was almost exclusively confined to continental Europe, particularly France, Holland, and Germany, until towards the close of the last century, whence England was principally supplied. In consequence of continued war between Great Britain and France, from 1793 to 1803, the London Society of Arts, directing their attention to the subject, have at various times, offered premiums for the encouragement of its growth; and in their "Transactions" for 1801, 1804, and 1805, as well as in previous and subsequent volumes, will be found accounts of plantations being made for which premiums were awarded. At present, extensive willow fields in England are in the fenny districts of the counties of Cambridge and Huntingdon; and perhaps, the largest plantation in the realm, is that of Mr. Adnam, near Reading. The principal English market for basket willows is London; but they are in demand, more or less, in every town in the country.

In the United States, the cultivation of the osier has never been carried to a great extent; yet, from the fact that large quantities of it are annually imported from Germany and France, it is believed by many that its culture may be attended with profit. We often read in the newspapers or journals of the day, that small patches are frequently raised in various parts of the country, and seemingly with success; but why this species of culture has never been more general, is beyond our means of knowing. Among those who have published accounts of their experiments, are the late Judge Buel, and C. N. Bement, of Albany, Thomas Affleck, of Mississippi, and several gentlemen in the vicinity of Philadelphia and New York.

The uses to which the osier may be applied are so varied, that it would be needless for us to attempt to enumerate them here. Being an aquatic plant, and of a rapid and vigorous growth, it is peculiarly fitted for planting on the banks of rivers and streams, for restraining their encroachments and retaining in its place the soil. The annual shoots, which are of different degrees of length, are used with, or without, their bark on, for all the different kinds of basket making, wicker work, &c. They may also be employed for binding up stalks, flax, and grain, instead of straw. The finer and smaller shoots may be used for tying up trees, shrubs, and vegetables, for the purpose of sending to market in bundles; for confining the branches of trees to walls, or espaliers; for tying up standard trees and shrubs into shape; for making skeleton frames on which to train plants in pots; for tying bundles and packages; and for a thousand other purposes, which are familiar to every gardener, or will readily occur to him in practice.

Choice of Varieties.—Almost every species of willow may be cultivated as osiers; but some are greatly preferable to others. The first thing to be considered in the culture of any variety, no matter for what purpose, is, to determine whether the male or the female plant is the more desirable kind for the object of the cultivator. There can be no doubt that the female of every species is the more vigorous growing plant; and, consequently, where timber, or coppice wood, hoops, or rods for the larger kinds of basket work, are the produce wanted, the female of the species ought to be preferred, however difficult it may be to procure plants the sex of which is known. On the other hand, when tough, yet delicate rods are required for basket making, not only the finer growing varieties, but the males of the species should be selected. The female plant may often be distinguished from the male by its stronger and more vigorous growth, by the darker or more brilliant color of its bark, and its leaves being broader and of a larger size. It ought also to be borne in mind, as a general principle, that willows, to be of any use, either as basket rods, hoops, poles, or timber trees, must annually ripen their shoots; and that, in cold climates, this cannot be done where they are grown in soils which are abundantly supplied with water late in the season. Hence the colder the climate, the drier should be the soil, on account of the necessity of perfectly ripening the wood.

The most vigorous growing species adapted for basket making, is unquestionably the twiggy willow, or common osier (*Salix viminalis*), and it is also the kind most generally cultivated for that purpose. It has no disadvantage, except that, in cold wet seasons, in a high latitude, and in a moist soil, it does not always ripen the points of its shoots. The other kinds which perfectly ripen the points of

their shoots in most seasons, are the red or purplish-twigged osier (*Salix rubra*); Forby's willow, or fine basket osier (*Salix forbyana*); the deceptive, or white Welch willow (*Salix decipiens*); and the stipuled, or auricled-leaved osier (*Salix stipularis*). The best of these is, perhaps, Forby's willow. The three-stamened flowered osier (*Salix triandria*), is nearly as vigorous as the common osier. The purple-twigged willow (*Salix purpurea*), the yolk-of-egg-colored willow, or golden osier (*Salix vitellina*), and the helix, or rose willow (*Salix helix*), are very desirable species, where small tough rods are required. A very valuable osier naturally abounds on the great marsh, on Grand Island, in Niagara River, which we think highly worthy of experimental culture. Various other sorts might be mentioned; but the above-named species are considered as by far the most valuable.

Soil and Situation.—The soil for basket willows should be of a deep sandy loam, well drained, and thoroughly prepared; and the situation ought to be low, level, and naturally moist; and, if there is a command of water for irrigation, so much the better. It will succeed, however, on a somewhat dry soil, in which the shoots will not only be smaller, but harder, tougher, and more compact and durable than when grown in a soil that is rich and moist. In dry soils, also, the growth of the plant is much slower than when it has been impelled by an extraordinary supply of water. The best situation, when the object is free and rapid growth, is along the banks of rivers and brooks, that pass through a level country, and on the small islands which frequently occur in the midst of streams. In hollows, or swales, also, the soil of which is composed of rich, soft earthy particles, and which can be laid dry, are the most eligible sites for converting into osieries; and if such can be occasionally soaked with water during the dry months of summer, the situation may be considered as perfect. Completely draining the site for a basket willow plantation is the first step towards its formation, and the foundation of its success, and consequently of the profit to be derived from it.

In preparing the ground for an osiery, if the soil be poor, it should be as well dressed with stable dung as if it were intended for a crop of wheat or barley. Lime, as a manure, has been tried, but it was found that the twigs became much fired, or spotted with a sort of canker, and in attempting to bend them, they readily broke at the cankered spots. In no case should a plantation of willows be attempted, but in prepared ground; except, perhaps, where a few rows may be introduced upon the brink of a river, or on the top of the banks of ditches, which form, in most instances, the barrier of waters, where the soil can scarcely be dug or otherwise ameliorated.

Propagation and Culture.—All willows may be propagated by cuttings; though some of the more rare alpine kinds with difficulty take root. Some species, also, grow very readily from seeds. The cuttings for osiers, which may be grown in nurseries previously to their removal to their final situations, should be made of one-year-old wood, about a foot or sixteen inches in length, cut straight across at the lower end, and in a sloping direction at the upper end. They should be planted perpendicularly in the soil, to a depth of three fourths of their length, with the earth firmly pressed to them, more especially at their lower extremities. The reason the lower ends of the cuttings are cut directly across, and not sloping like the upper ends, is, that they may form equal callosities all around, and consequently throw out an equal number of roots from these callosities on every side. It has been found by experience, that, when a cutting is inserted in a sloping direction, roots are protruded nearly equally through all that part which is buried in the ground, unless the soil has been more closely pressed against one part than another. In this case the roots will there be protruded in greater abundance; and, if the soil has not been pressed to the lower extremity, it would probably produce no roots at all at those points, but rot. The upper extremity of the cutting is cut in a sloping direction, for the purpose of shedding off the rain. The top end of the shoot, as far as it appears soft, being unripe, should be discarded; because such wood will only produce weak plants, and will not make such good roots the first season, as the firmer parts of the shoots will do. Pieces of two-year-old shoots of the same length as above, and cut in the same manner, may also be used: but these are more expensive and no better for the purpose than the former.

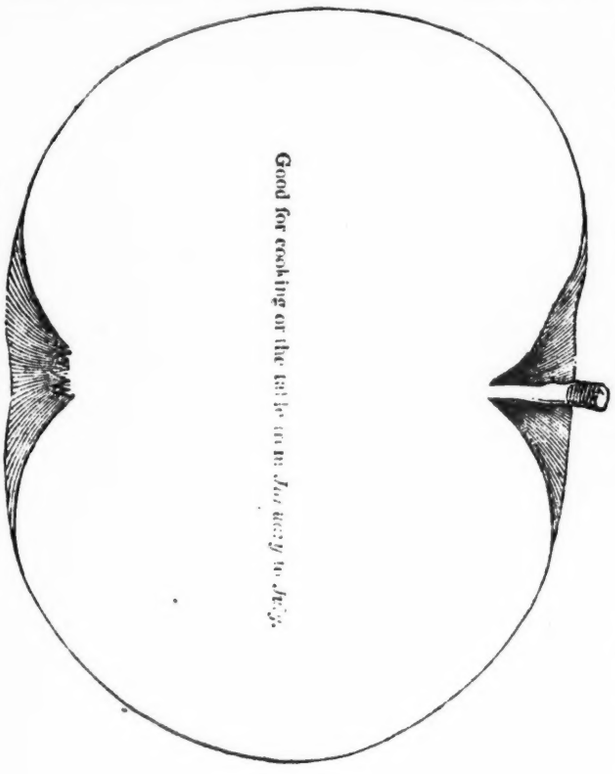
The distances at which osiers for baskets, or wicker work, ought to be planted apart are eighteen inches between the rows and twelve inches in the other direction. At these distances, 29,040 cuttings will be sufficient to plant an acre. These distances will not be found too near for at least five or six years; but, after that period, every alternate plant should be grubbed up by the roots, which would leave those remaining at two feet apart in the rows. The best season for planting cuttings of two-year-old wood, in a well drained soil, is late in autumn, in consequence of which, the buds will swell during the winter, and be ready to grow with vigor in the spring; but in a wet soil, and in climates where they are liable to be loosened by winter frosts, cuttings planted in autumn should be made firm a second time in the spring. The proper time to plant the slips of one-year-old wood, in a high latitude, is a few weeks previous to their natural period of putting out leaves. The cuttings may first be planted in a nursery and removed the autumn or winter following, or they may be planted at once in the sites where they are finally to remain. In either case, if the soil is not sufficiently moist, due attention must be paid to give them water in dry weather.*

LIST OF AGENTS.—We have occasionally been asked to publish a list of our agents; but as these amount to several thousand, and the publication of them would be attended with considerable trouble and expense, we have forborne to do so any farther than giving the names of those who are stationary in the large towns. Any one wishing to take the Agriculturist, need not if inconvenient look for an agent for it, but remit the amount of the subscription through the Post Office at the publisher's risk, directed to C. M. Saxton, 205 Broadway, who will immediately send them the paper.

* See Loudon's Arboretum, vol. iii., pp. 1456, et seq.

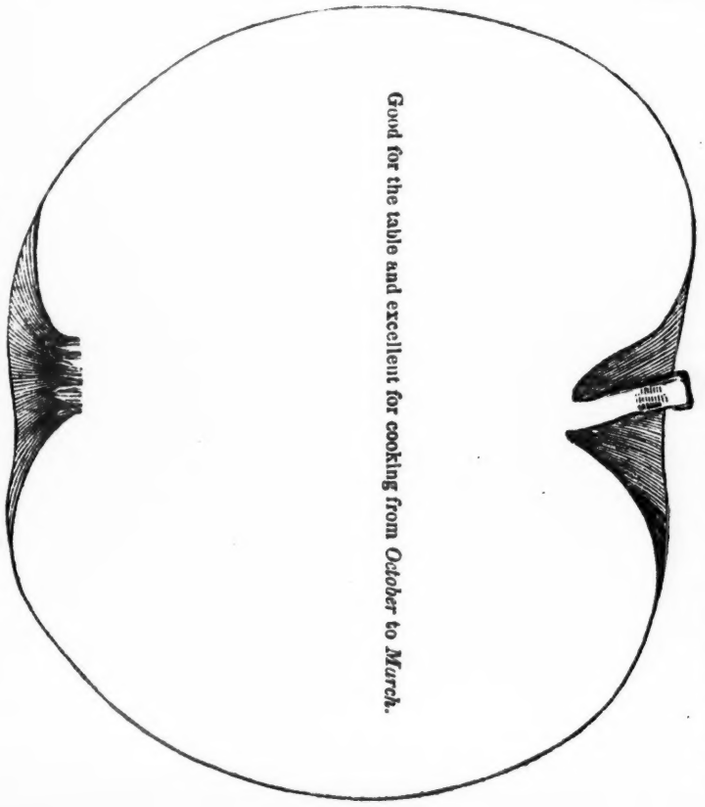
CHOICE VARIETIES OF APPLES.

New England Russet.—This variety, which is sometimes called "Boston" or "Roxbury Russet," is reputed to be a native of Massachusetts, and is highly esteemed throughout New England on account of its property of long keeping and the productive habit of the tree. The fruit is of medium size, often large, irregularly round, a little flattened at both stem and blossom ends, or sometimes slightly angular. The skin, at first, is dull green, covered with brownish yellow russet, when ripe, with rarely a faint blush on one side. The stem is usually nearly three fourths of an inch in length, rather slender, and not deeply inserted. The calyx is enclosed, in a roundish basin, of moderate depth. The flesh, when not too ripe, is usually of a greenish white, moderately juicy, with a rather rich subacid flavor. It is usually considered the best of its class, which are popularly known in some parts of the country, under the name of "leather coats."



New England Russet.—Fig. 10.

Rhode Island Greening.—This well known variety, according to Landreth, is extensively cultivated throughout the Atlantic states. The size is large, the outline round, with the skin of a yellowish green. Sometimes, however, though very seldom, it has a faint blush-like hue towards the stem. The flesh, when ripe, is yellow, fine grained, tender, and abounding in juice of an acid flavor. The calyx, is woolly, rather small for so large an apple, and is set in a shallow basin. The stem is about three fourths of an inch long, curved, and thickest at the base. The tree is of vigorous growth, and produces abundant crops.



Rhode Island Greening.—Fig. 11.

AGRICULTURE OF THE CHINESE.
No. 2.

Cultivation of Rice.—Rice being the chief article of food, is, of course, the staple production of the country, more particularly in the south, where two crops of it can easily be raised in the hot months, besides another crop of some more hardy vegetables in winter.

The ground is prepared in spring for the first crop of rice, as soon as the winter green crops are removed from the fields. The plow, which is commonly drawn by a buffalo or bullock, is a rude implement; but probably answers the purpose much better than ours would, which has been found to be too heavy and unmanageable for the Chinese. As the land is always flooded with water before it is plowed, this operation may be described as the turning up a layer of mud and water, six or eight inches deep, which lies on a solid floor of hard stiff clay. The plow never goes deeper than this mud and water, and consequently the plowman and his bullock in wading through the field find a solid footing at this depth below the surface. The water buffalo generally employed in the south, is well adapted for this work, as he delights to wallow amongst the mud, and is often found swimming and amusing himself in the canals on the sides of the rice fields. But it seems a most disagreeable and unhealthy operation for the poor laborer, who nevertheless goes along cheerful and happy. After the plow, comes the harrow; this is chiefly used

to break and pulverize the surface of the soil or to bury the manure. Hence it has not long perpendicular teeth like ours; but the laborer stands upon the top of it, and presses it down upon the muddy soil while it is drawn along. The object of both plow and harrow is not only to loosen the earth, but to mix up the whole until it forms a puddle and its surface becomes smooth and soft. In this condition it is ready to receive the young rice plants.

Previously to the preparation of the fields, the rice seed is sown thickly in small patches of highly manured ground, and the young plants in these seed beds are ready for transplanting when the fields are in a fit state to receive them. Sometimes the Chinese steep the seeds in liquid manure before they sow them; but although this practice is common in the south, it is not general throughout the empire.

The seedling plants are carefully dug up from the bed and removed to the fields. These fields are now smooth and overflowed with water to the depth of three inches. The plants are put in patches, each containing about a dozen plants, and in rows from ten to twelve inches apart each way. The operation of planting is performed with astonishing rapidity. A laborer takes a quantity of plants under his left arm, and drops them in bundles over the land about to be planted, as he knows, almost to a plant, what number will be required. These little bundles are then taken up, and the proper number of plants selected and plunged by the hand into the muddy soil. The water, when the hand is drawn up, immediately rushes into the hole, and carries with it a portion of soil to cover the roots, and the seedlings are thus planted and covered in without further trouble.

In the south the first crop is fit to cut by the end of June or the beginning of July. Before it is quite ripe, another crop of seedlings is raised on the beds or corners of the fields, and is ready for transplanting as soon as the ground has been plowed up and prepared for their reception. This second crop is ready for cutting in November.

In the latitude of Ning-po, 30° north, the summers are too short to have the land cropped in the same way in which it is done in the south. The farmers here manage to have two crops of paddy [upland rice?] in the summer by planting the second crop two or three weeks after the first, in alternate rows. The first planting takes place about the middle of May, and the crop is reaped in the beginning of August, at which time the alternate rows are only about a foot in height, and are still quite green. After the early crop is removed, the ground is stirred up and manured, and the second crop having now plenty of light and air, advances rapidly to maturity, and is ready for the reaping hook about the middle of November.

About one hundred miles further north, in the Shanghae district, the summers are too short to enable the husbandman to obtain a second crop of rice, even upon the Ning-po plain, and he is therefore obliged to content himself with one. This is sown at the end of May, and reaped at the beginning of October.

A large quantity of rain always falls at the change of the northeast monsoon in May. This is of the utmost importance to the farmer, not only as regards his rice crops, but also as to many other operations at this season of the year. We are accustomed to hear a great deal of the machine-like regularity which pervades all the operations of the Chinese; but a little investigation of the circumstances in which they are placed—at least in so far as agriculture is concerned—will convince us that their practice is regulated, not so much by caprice and those "Mede and Persian" laws, as by the laws of nature herself, upon which the success of the varied operations of agriculture mainly depend. Thus the crops of rice and cotton are sown on the low lands, and the sweet potatoes are planted on the hills, year after year, exactly at the same time. But this regularity is not the effect of prejudice, nor in obedience to the imperial orders; it is simply the result of experience which has taught the farmer that this is the proper time for these operations, because there will then be a continuance of frequent and copious showers, which will moisten the earth and the air until such time as the young rootlets have laid hold of the soil and are capable of sending up sufficient nourishment to the stems.

During the growth of the rice, the fields are always kept flooded when water can be obtained. The terraces near the base of the hills are supplied by the mountain streams, and the fields which are above the level of any adjoining river or canal are flooded by the celebrated water wheel, which is in use all over the country. These machines are of three kinds. The principle in all of them is the same, the only difference being in the mode of applying the moving power; one is worked by the hand, another by the feet, and the third by an animal of some kind, generally a buffalo or bullock. The rice lands are kept flooded in this way until the crops are nearly ripe, when the water is no longer necessary. It is also necessary, or at least, advantageous, to go over the ground once or twice during the summer, and stir the soil up well amongst the roots, at the same time removing any weeds which may have sprung up. If the weather is wet, the fields retain the water for a considerable time, and then it is not an uncommon sight to see the natives wading nearly up to the knees in mud and water, when they are gathering in the harvest.

When ripe, the crops are cut with a small instrument, not very unlike our own reaping hook, and are generally threshed out at once in the fields where they have grown. Sometimes, however, and more particularly in the north, the paddy is tied up in sheaves, and carried home before it is threshed; indeed, everything in the northern agriculture of the Chinese has a great resemblance to what is practised in Europe.

LIVE APPLE TREE POSTS.—The Massachusetts Ploughman suggests that apple trees be planted about ten feet apart, on a line where it is desired to construct a permanent fence. In the course of ten or twelve years they would be large enough to be mortised for the purpose of receiving cedar or chestnut rails, which, it is thought would last more than fifty years. In the mean time, these "living fence posts" would occasionally bear a crop of apples, and thus become profitable in "divers ways."

IMPROVED VARIETIES OF INDIAN CORN.

HAVING noticed in the November (1847) number of the Agriculturist an account of the successful cultivation of Brown corn by Dr. Field, I have been led to forward you a statement of my own crop of the past season, which was raised from the same kind of seed.

The ground was prepared in my usual way [see p. 82 of our sixth volume], and planted on the 29th of May, three feet between the rows and about two feet in the other direction. The growth of the corn was very luxuriant, the height of the stalks being, upon an average, about seven feet, and the ears from two to three feet above the ground, generally of uniform size and well filled. By the 1st of October, the crop was in a fit condition to be harvested, and was accordingly cut up in fine weather, husked, and properly stored away in the corn loft, from which is selected a fine parcel for seed. Previous to harvesting, I measured off an acre of the field, the product of which, on being weighed, after the husks were removed, was 7,104 lbs. This according to previous estimates would give upwards of *one hundred bushels* of shelled corn to the acre.

I will also give you an account of another variety of corn, which I have experimented upon, by my peculiar method, although at a somewhat limited extent. About five years ago, I obtained a small ear of rice corn, with tiny grains and a cob "almost nothing," which I planted in my garden, where it had no chance to mix with the pollen of any other kind. For three or four years in succession, I planted a small patch, during which time, I found that the ear and kernel both increased in size, while the cob continued to be quite small. About the end of May last, in order to know what it would yield, I planted ten square rods of ground. The stalks grew stout and contained from two to four ears to each; and, according to a fair estimate, the yield was at the rate of *one hundred and twelve* bushels of shelled corn per acre. Thus, in five years, from the most diminutive sort in the world, I have obtained a variety which, in time, bids fair to give as abundant a yield as my other corn.

Long Island, JOHN BROWN, 2ND.
Lake Winnipisiogee.

WE are gratified in stating that most of those who procured seed of the Brown corn from us for planting last spring, are satisfied with the results of their experiments. Mr. John S. Winthrop, however, of Oak Plantation, N. C., writes us as follows:—"I find that the Brown corn does not answer at all here. It matures so early, that the kernel shrivels without filling out; at least, that seems to be the case with some which I planted last spring."

By referring to a note on p. 83, of our sixth volume, it will be seen that we expressed an opinion that this variety of corn is adapted to the climate of all the New England States, New York, New Jersey, a portion of Pennsylvania, Ohio, Michigan, Illinois, Canada West, Iowa, Oregon, &c. As far as our knowledge extends, wherever this corn was properly cultivated in any of the above-named States, the results have been favorable. At p. 244, of the volume as above, it is also remarked by Reviewer, in reference to this corn, that, "The seed of Mr. Brown's crop, which he grew at Lake Winnipisiogee, in New Hampshire, would prove worthless in Florida. And it would be equally idle for Mr. Brown to undertake to grow the Florida gourd-seed variety"—an assertion perfectly correct, and proves the experience of our North Carolina friend to be true.

In order to acclimatize Indian corn in a distant latitude from that in which it grew, its progress must be gradual and should occupy several years. For instance, if it were wished to cultivate the Brown corn in North Carolina, it should first be planted in New York or Connecticut, for two, three, or more years, without changing the seed; then it should be cultivated in a similar manner, in Maryland or Virginia, from the New York seed for two or three years more; and finally, in North Carolina, where it would then succeed. If a similar course were pursued with the corn of Florida, in process of time, it could be made to ripen in Canada. In either case, the character of the corn would change, and often new varieties would be the result.

The Brown corn which was raised on the Hudson last season, was planted about the middle of May; ready for harvesting by the 15th of August; attained only five sevenths of its ordinary height in New Hampshire; sent forth well filled ears at a foot and a half above the ground; and yielded, by estimation *ninety one* bushels of shelled corn to the acre; which was at least one third more than the neighboring crops, soil and cultivation of each being nearly the same. The same kind of corn planted on the south end of Long Island, N. Y., the first week in June, fully ripened for harvesting the first week in September, and yielded by estimation, over sixty bushels per acre, being several bushels more than any other corn on similar soil, and equally well treated.

We have an abundance of seed on hand, that was grown in this vicinity, which we will sell at ordinary rates; but it is doubtful, after the change it has undergone, whether it possess advantages over our common kinds. Notwithstanding the high price we unavoidably have to pay for transporting the Brown corn from Lake Winnipisiogee, it is obvious, from numerous experiments, that it would be for the interest of many of our farmers to procure their seed from that source. Security against frosts and a prospect of an increased yield, without additional labor, or cost of manure, certainly are sufficient inducements for them to make the trial. We wish to be understood, hower, that we do not condemn the seed grown in this vicinity; but, on the contrary, would recommend it to be sparingly planted, in order to test its productiveness. Our own choice would be to procure the corn from the fountain head. For particulars see advertisement.

PRODUCTIVENESS OF THE CATAWBA GRAPE VINE.—The original vine of this variety is said to have been procured from the banks of the Catawba River, and planted in the garden of the late Mr. Schell, of Clarksburg, in Maryland, and has been known to bear nearly *eight bushels* of grapes in a single year.

MODE OF IMPROVING SAND WASTES IN THE VICINITY OF THE SEA.

During a residence of several months on that extensive and beautiful estate of the late Mr. Van Eys. Mayor of the city of Amsterdam, situated between the city of Haarlem and the North Sea, I enjoyed a fine opportunity to observe the manner in which the farmers of Holland reclaim the Downs (*Duines* in Low Dutch), described by Professor Norton on p. 316, of your sixth volume. Intelligent and able landowners, in the vicinity of the Downs, mark off, say one, two, or more acres of these sand wastes, contiguous to their cultivated farms. These spots they closely plant, in parallel rows, with the down grass (*Arundo arenaria*), which casts a pretty deep root into the moist parts of these beds of sand. Afterwards they inclose them with a hedge of hawthorn, or a close bush fence, as an additional protection against the incursions or the winds. In a couple of years more, they sow them with buckwheat, or turnip seed, which, when sufficiently grown, is plowed under and sowed with winter rye. In the succeeding spring, this land is well manured, and planted with potatoes, which, although not abundant, are of that fine quality so justly ascribed to them by Professor Norton. After this, rye is again sowed. Thus hundreds of acres in this manner are reclaimed from useless wastes and rendered available for agricultural and other useful purposes. Some of these reclaimed lands, I have seen covered with thrifty plantations of oaks, which, by the intelligence and industry of man, have amply rewarded him for his labor.

Mr. Van Eys, who was a truly practical as well as scientific agriculturist, was in the habit of adding, from year to year, lands taken from these Downs, to his cultivated fields, and rendering them equally productive. I have walked along fields of rye, at his place, which might have afforded me a convenient hiding place. The country seat of Mr. Van Eys was known by the name of "Boekenrode," from the magnificent beech trees, which imparted great beauty to the place.

Augustus Wackerhagen.

Clermont, N. Y., Jan.. 1848.

HYDRAULICS FOR FARMERS.

Every farmer, especially in a northern climate, must be aware that the comfort of his stock through the inclemency of winter is essential to carrying them through that season in the most economical and of course the most profitable manner. To insure this degree of comfort, sheds and stables in which they are protected from driving storms, high winds, and intense cold, are indispensably necessary; for it is now a well established fact with our best stock growers, that the expense of such sheds and stables is fully liquidated by the saving of fodder and increase of thrift in the animals in a very few years, probably before the buildings erected for their benefit need their first repairs. And there are other objects gained by the housing system for stock. They are rendered more docile by the operation. The cow or the ox that has been accustomed to be frequently or almost universally housed through the inclement season from the early days of "calfhood," will almost invariably possess excellences which are seldom found among animals doomed to roam at large and seek shelter where it may, and sometimes where it may not be found—behind buildings or fences, the disjointed sides of which make but miserable pretensions to the objects to which the helpless and ill-fated animal appropriates them.

There is another subject connected with the thrift of the farm yard which is no less important than nice warm stables and good comfortable sheds. That is *water for stock* of which they need a regular supply, as they do of feed or protection. This fact is unquestionable, and therefore needs no comments, as every useful and observing farmer knows full well; yet how often it is the case that the poor animal is turned adrift to contend with piercing winds and almost impenetrable drifts of snow, while it plods its way to the well remembered spring, the pure, cool waters of which, so often allayed the feverish thirst of summer, to sip the healthful draught that winter's wants require. What hooking and pushing and crowding is often witnessed by the way, and when the already enraged group gather round and in angry dispute, contest each others claim to the sparkling fountain! and how they look, and how they feel when they return to the barn after such a pilgrimage, attended with such conflicts!

Many of our farmers, it is true, have seen the inconveniences and unprofitableness of such a state of things, and have remedied them by introducing pure streams of water into their yards, so that the animal may go to the tub at any time, or at all times when liberated from the stable to take the libations that nature so promply demands. Those who have done so, have found economy in this, though in some instances, the first cost, from the distance of the spring, involved considerable expense, by the saving of their own time, the saving of the comfort and thrift of the animal, and the saving of manure, which, instead of being left in a line from the barn to the spring and around the spring where it is not wanted, is now deposited in the yard, ready at the farmer's move to be taken to the spot where its value will be most advantageously realized. Hence it must be concluded that it is for the farmer's interest to have a constant supply of pure water in or very near his farm yard, in order that his animals may drink singly, or together, when, and as often as they please.

The frequency with which farm buildings are situated on elevations, however, seems in many instances to preclude the possibility of introducing water to them, from the springs, which are often all situated so far below, as to shut off the possibility of getting supplies from them by the usual method of an aqueduct. But another method to accomplish this object has been found, and from its utility has been liberally adopted, and this with a success fully equal to the expectations of all who have adopted it. I refer to the introduction of Benson's hydraulic ram, not that hydraulic rams are a new thing, for Montgolfier, a Frenchman, invented one long ago; but this of Benson's, so simple in construction, so easily kept in repair, and so regular in its operations, is to us northerners altogether new. The first of Benson's I saw, was set up about two miles from my residence, as an experi-

ment, in September, 1846. The spring was from ten to twelve rods from the buildings, and down a bank, the descent of which was about forty feet. At the bottom of this bank the farm animals had been obliged to travel through storm, wind, snow, and mud, and over ice, for a full half century or more, and up this doleful way the water for the family use had been carried in buckets, by hand (who does not feel himself growing stooping, while he thinks of it), for the same long period. The operation of the machine was so satisfactory that the farmer became the purchaser, and in the November following, made it a fixture of his premises, and since that time, has had through its agency, an abundant supply of water for his stock in his yard, and for household purposes, at his door. In a recent conversation with him upon its utility, after a year's trial, he expressed his full satisfaction in its operation and thought that no consideration would induce him to forego the convenience it affords. And thus we see, that a way is fully and completely provided whereby those whose springs are situated lower than their buildings can have them brought within a convenient distance, or if they choose, carried into every stable, or every apartment of the dwelling, with as much facility as convenience requires, at but a little more expense in the outfit than water can be brought down hill in a common aqueduct, and with as great prospect of permanent success in the former as in the latter instance. W. BACON.

Richmond, Mass., Jan. 1848.

LETTERS FROM VIRGINIA.—No. 3.

THE county of Loudon is situated in nearly a north-westerly direction from Fairfax, and bounds it on the west—extending to Harper's Ferry on the north, with the Potomac on the east, and the Blue Ridge on the west, which separates it from Jefferson and Clarke counties. With rare exceptions, in Virginia, the subdivision of territory into townships is unknown. There are upwards of one hundred and fifty counties, many of them occupying not more space than some of our larger towns. In each county one or two villages may be found --seldom more—the residue constituting plantations and farms. Providence, or Fairfax court house, as it is indifferently termed, the county seat and only village of Fairfax county, consists of a straggling collection of buildings, mostly of wood, and several, even among the principal shops and stores, of logs—and rather resembles what you are accustomed to term cross roads, than the flourishing villages which dot the surface of the Empire State. The court house, clerk's office, jail, one or two of the hotels, and a few of the dwellings of the more wealthy citizens, are of brick.

Leesburg, the capital of Loudon, is quite a large town—neatly built—principally of wood and stone —with narrow and execrably paved streets—and a population of some two thousand. It has a very fine academy, a bank, four or five good hotels, two printing establishments, fifteen or twenty stores, a court house and jail, clerk's office, &c. The country around is exceedingly beautiful, and well cultivated. On the principal thoroughfare, leading from Georgetown, through Fairfax to Leesburg and Winchester, after leaving the Fairfax boundary, you are at once transported into the midst of a rich, luxuriant, and highly cultivated region. The endless succession of pines which presents itself in nearly every portion of Fairfax, here disappears; and in its place, pastures, meadows, and arable fields are agreeably and pleasantly diversified with noble and extensive forests of chestnut, oak, walnut, and cedar. The mountain scenery is very beautiful and frequently magnificent. Large herds of cattle are seen grazing on every hill—flocks of sheep are by no means unfrequent—with stock of every description—while crops of corn ranging from one hundred to a hundred and fifty bushels to the acre, and of wheat, from twenty to thirty, with other crops in proportion, are often realized. In short, this portion of Loudon is universally regarded as the garden of Virginia; and I cannot conceive of any more ample development of fertility and beauty combined, than is here presented.

North and west of Leesburg, in every direction, may be found farms of from five hundred to a thousand acres, in the highest state of cultivation, with costly and magnificent buildings, grounds, parks, palings, &c., affording ample evidence of the wealth, no less than the intelligence and taste of their proprietors. These proprietors are, with rare exceptions, gentlemen of the old Virginia school—a school, I venture to say, unequalled in the wide world for the cultivation and development of all those qualities which adorn and beautify human life, and elevate and exalt modern civilization. Unbounded hospitality—a hospitality which seems never to become burdensome either to its dispenser or its recipient—which, unlike much that often passes for this sterling quality elsewhere, leaves its subject perfectly free in all his motions, and at liberty to follow the bent of his own inclinations, while it relieves the host from all that embarrassment and fatigue which an exclusive devotion to his guests and a perpetual attendance upon his footsteps, necessarily involve. Genuine, old fashioned southern hospitality of this sort, constitutes a leading and prominent characteristic of this delightful region. With this is combined, especially in the higher classes, an unaffected and pervading spirit of kindness, benevolence and urbanity—rendering a residence in their midst a constant source of pleasure and satisfaction. I am free to confess, that for the mere purposes of social enjoyment, including, of course, intellectual and moral companionship, and all those nameless charms and graces which adorn and dignify an advanced civilization, I should be inclined greatly to prefer the south to the north —even those portions most refined and longest settled. The mildness and benignity of the climate—the fertility and variety of the soil—the usages and habits of the people derived with scarcely a perceptible alteration from their ancestors of two centuries since—the leisure which their institutions afford for the cultivation of the highest faculties of the mind—and the opportunities they present for the constant exercise of all those qualities of the heart which constitute the noblest patrimony of our nature—all these causes combine to the development of a state of society far in advance of that which is ordinarily found under other and less auspicious circumstances.

After what I have said of the appearance and

fertility of the soil in this region, and the liberal crops annually harvested by its enterprising proprietors, I need scarcely add that very great attention is paid to *manures* of every description. Lime is used in profuse abundance—from one hundred to a hundred and fifty bushels per acre frequently applied, and everywhere, as I am informed, with the best results. Ashes and plaster are regarded as next in importance; and wherever charcoal can be procured at a reasonable rate, it is given to the soil sometimes as a top dressing, but more generally with the crop when put into the ground. The utmost care is bestowed upon the farm yard manures—not a particle either liquid or solid being allowed to escape—and compost heaps very generally being charged with the task of absorbing and retaining for future use, these indispensable elements of fertility. The extensive pastures which everywhere prevail in this region, furnish the Washington and Baltimore markets with the finest beeves; and vast droves of cattle are constantly passing in that direction nearly every day in the year.

In this county, as well as in Fairfax, the northern immigration is in rapid progress; and some of the best farms have already been taken up by our enterprising Yankee farmers, at prices varying from $20 to $40 per acre. The land, as you will easily infer from what has been said, is much more valuable than the exhausted soils of Fairfax; but then, on the other hand it is farther from market, and considerably more expensive. There is a very prosperous and interesting Quaker settlement some ten miles north of Leesburg, of which I shall speak in my next. A NEW-YORKER.

PROTECTION OF CROWS, BLACKBIRDS, FOXES, TOADS, &c.

FARMERS are in the habit of complaining of the crows and blackbirds, for pulling up their corn. These birds prefer to seek their food in their usual haunts. When their food is not found there, they visit the cultivated fields of the farmer. Would it not be good policy for the farmer to scatter some corn in the field, and fulfil the injunction of "feeding the hungry," and thereby save the corn fields from injury? Or would the crows call their fellows and invite too many to partake of the bounty, and when that was eaten, attack the corn plants? So with the pigeons, when they find plenty of beech nuts, acorns, &c., of spontaneous production to satisfy their hunger, they stay at home, in the forests. It is only when famine at home compels them to roam for food, that they visit the cultivated country in search of it. I have known them to pull up the corn plants of whole fields, ten fold worse than the crows.

Foxes and skunks, also, feed on mice, bugs, crickets, frogs, &c. But when they are pinched hard for food to feed their young, they are ravenous, and roam at night over great extent of country, enter the enclosures of the farmer, rob his henroost, take off his chickens, geese, ducks, young pigs, and anything to appease their hunger. It is not their choice to plunder the farmer, and do not, till their usual supply fails. Would not the farmer do so when famine deprived him of food? He says, "necessity has no law" to restrain him.

The innocent toad is not only harmless, as he meddles not with anything valuable, but benefits the farmer by feeding on insects and worms. He sits perfectly still within eight or ten inches of a flock of ants, and throws out his tongue like a flash of lightning, and takes in one certainly, at each throw, without the least movement of his body. The toad is useful to the gardener and farmer in feeding on insects. Let the farmer then withdraw his wrath from these animals for imitating us when in want.

What a wise provision it is in nature, that rats and mice are only about five to ten per cent. females. We suffer much from them now. If these were of equal numbers of male and female, would they not consume the chief of the produce of the labor of man? DAVID TOMLINSON.

Schenectady, Oct. 1847.

HEREFORD CATTLE.

I SEE by your last paper that you are expecting something from me on Herefords. Nothing can alter my opinion of that valuable breed, nor do I think they can be *equalled* for all purposes, by any other. The more I know of them, the more I am convinced of their superiority as milkers of the richest kind; and I am positive that *good handlers* will invariably give rich milk. I never had a single Hereford that gave milk of an inferior quality, and I will leave it to those who have purchased from me, to say whether I ever sold a cow or heifer that would disprove this fact. The Short Horn men, the principal opposers of the Herefords, cannot do less than admit their superiority for the yoke and shambles. I shall soon be able to test them fairly against some of the best common stock of the country, half bred Devons, and half bred Short Horns, and compare them with my esteemed neighbor, Mr. Lewis F. Allen's best breed of Short Horns; and your readers all know that the bull Wellington, which he has been using the past two years was imported by that spirited breeder, Mr. Vail, of Troy, and is one of that fine handling, high bred stock, from Mr. Bates of Kirkleavington, England, whose produce will be a fair contest. He can show by ocular demonstration the proof of the Hereford, and I can that of the Short Horns. I must say he has some calves and yearlings that look like quality; and such are the ones I wish to contend against. These results shall be accurately made known to you.

If my health should hold good, my friends prove true, and my enemies treat me fairly, I will endeavor in a few years to show by practical knowledge, the various crosses from the different breeds of cows in this country, and a Hereford bull. Such experiments will enable me to prove the good that can be devised by judicious breeding.

There are but few who know the value of a full blood sire, and I do firmly contend that no other should ever be used, whatever may be the favorite breed resorted to. And I think a breeder of thorough bred sires of more importance to the public, than individuals are willing to admit; but he must not be a "*fireside breeder*," but one that can be thoroughly depended upon; such a one as would never let a mongrel cross leave his premises, and if his pure bloods did not prove all that he represented, they should be exchanged and made good

at his expense. Such a breeder would never save a *mongrel male;* and he would be safe in his recommendations, knowing the *proof* of the animal in which he placed his dependence; nor would he be deceived in the produce of such a sire, probably, nineteen times out of twenty, when the animals bred from were *good and unalloyed*. I would not scruple in sending a bull calf to any upright, honest man without prejudice, and warrant him a good stock getter, even if his appearance was not in his favor. I should know positively from whence he sprang, and should feel perfectly convinced that the result would be satisfactory.

A breeder of good and pure bred sires, has a great deal to contend against. His judgment must never waver, every point of an animal must be strictly observed, and carefully put into practice; then he is nearly certain of producing a good one. I consider the *handling point* one of the most important, for a *good handler* is not only a good feeder; *gets ripe more quickly* with less consumption of food, but is a rich milker; and a sire bred from a cow possessing these two important points, is of very great consequence. He produces quality, if he does not quantity, which is in reality true value. I would much rather have a milking herd of the former than the latter; an average of sixteen quarts per day is as much as any reasonable man ought to expect, and there are not four herds in ten which will come up to that through the summer.

When a breeder has paid every attention to these matters and has succeeded in getting as near perfection as his ability will admit, it is not appreciated by the people of this republic. If he asks a hundred dollars for a calf (and I would not sell one for less), he is laughed at, or is considered exorbitant in his charge. No man can sell a calf of the description I speak lower; nor does a farmer deserve to own such an animal who has not sufficient spirit to pay those who have taken the greatest pains, and studied with considered care the ways and means of producing him. How many there are who like to look at superior animals; but how few who will aid to advance their improvement. The men of bank stock, railroad stock, and every other kind of stock but the right stock, and who quarrel with their butchers for sending *the tough beef they tug at and chew*, and have plenty of money at command, still hold back their funds from improving the very *stock they feed upon*. There are many who own thousands of acres of land, who have never spent a dollar towards the improvement of the mongrel stock, growing upon it. And there are those who have but little, and who have toiled hard with that little for the benefit of mankind, and have met with ridicule and abuse to add to their loss, trouble, and expense. But when you take into consideration the numerous animals of different breeds that have been imported into this country from England, and witness the inferiority of them generally, you cannot blame their lack of confidence. If a tenth part of the stock brought here had been prohibited from landing, and that money had been laid out *in the best* of each kind, then the public would not have been *humbugged*, which they certainly have been and to a very great extent. They have paid enormous prices for very spurious animals, *large coarse worthless brutes*, that have injured the common stock of the country, rather than improved it; and it will take a long time to conquer the illiberal feeling that exists against imported stock.

If you wish me to write you some short articles on the Herefords, I will endeavor to do so, and for the next number, I will commence on calves and their treatment while young. [Please to do so.—Ed.]

All the Herefords that are not giving milk, are living on marsh hay, not a bit of anything else have they had before them this winter. I never saw them looking better, and I am perfectly convinced that a Hereford beast will live and do well on coarser food than any other kind of animal; and those who try them will find it so; they are not choice eaters. You are aware what kind of marsh hay it is, as you know the premises equally well as myself. I have four bull calves for sale that will be wintered on marsh hay for breakfast, a two bushel basket of cut Timothy hay, with about two quarts of shipstuff mixed with it for dinner, and one and a half for supper, and I think they will come out in the spring fit for business; although not very high in condition, they will be as good as I would wish them. Wm. H. Sotham.

Black Rock, Erie Co. N. Y., Dec. 21, 1847.

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With respect to wintering an animal on *marsh hay*, we can tell a story which is rather before that of our correspondent. When we occupied the same premises that Mr. Sotham now does, among other animals on the farm, was a three-year-old Durham bull. We had a stack of marsh hay standing outside of the barn, one of the coldest and bleakest spots we know upon the Niagara River. At that time, 1836, it was generally charged as a fault of the Durham breed of cattle, that they were not so hardy as the natives. We determined to try an experiment on this bull, for the purpose of ascertaining so far as he was concerned, whether there was any truth in this oft repeated assertion of the enemies of this breed. We accordingly took him up from pasture late in the month of November, 1836, and turned him out to this stack. The bull was not inside of a barn or shed, to our knowledge, all winter. His only shelter was the lee-side of the stack, and his only food, its harsh, coarse hay, and the orts he got out of a dung heap, daily accumulating from the horse stable. Not a particle of cut hay, or roots, or bran, had he in addition. He came out in the spring in good condition, which was, we will venture to say, more than would have been the case with most of the bulls of any other breed. The following winter he was treated precisely in the same way, and came out looking equally well—really, in fine condition.

To prove the working qualites of Durhams, so far as we then could, the following winter '38 and '39, we put this bull at work, lumbering, alongside of a large, powerful eight year-old stag. The stag girted six inches more than the bull, and was proportionably heavier. They worked in common with twelve other yoke of the most powerful cattle we could purchase in Erie county. The timber these cattle drew out, was large, heavy white oak logs, from 20 to 65 feet long, probably averaging full forty feet in length, and two and a half feet in diameter. Some were four feet in diameter at the butt end. All who have any experience in lum-

bering know, that such work is exceedingly hard on cattle, and none but the best can stand it for any length of time. Some of these oxen girted seven feet round the heart, and yet not one of them was a match for the bull at a dead pull; and in his step, he was among the quickest. Indeed, so well pleased were the teamsters with his performance, that it was quite an affair of rivalry to get him in their team. For his different feats they elected him to various gradations of military office, starting with the title of Corporal. If we recollect right, before being mustered out of service, he had attained as high a rank as Colonel; and had not an early thaw unexpectedly come on and carried off the snow, thus putting an end to lumbering for that year, he would unquestionably have won the puissant title of Major General!

The truth is, good working cattle, good beef, good milkers, or the reverse of all these, may be chosen from Durham cattle, according as one wishes to breed. For a combination of all these qualities, and especially as beeves and milkers, we do not think those Durhams, which are *properly bred*, can be excelled. But all this in favor of Durhams does not militate against the Herefords; they are a noble race, and worthy of all commendation. From the first of Mr. Sotham's importation, we have been among their earliest and strongest advocates; and we will say, frankly, that they undoubtedly, generally excel the Durhams in the yoke, though at the same time, we must add, that we have seen half to seven eighths bred Durhams in this state, Connecticut, and Massachusetts, which could not be beaten in the yoke, neither at the shambles nor at the pail.

We trust that Mr. Sotham will continue his articles. He is not only a good breeder, but a first rate practical farmer; and these are the kind of men whom we wish could be induced to write more frequently for agricultural journals. The hard-fisted yeomanry would have less to say then, than they now do about book farming.

How to Check the Bleeding of an Artery.—The French surgeons, Amussat, Velpeau, and Thierry, have proved that bleeding from an artery may be more effectually checked by tearing or twisting the wounded parts than by a simple ligature. For, when a ligature is applied to an artery, it is only the surface of its coats that come in contact, while, if it be torn or twisted, the minute globules or cells adhere together in a variety of different ways, in a similar manner as the fresh-cut edges of India rubber, or the raw particles of newly-broken dough. Furthermore, it is well known that if the internal coats of an artery be not closely pressed by the ligature put round it, adhesion will scarcely take place—an observation which closely coincides with the statement above.

Lobsters.—Lobsters that are rather large and heavy are considered the best. When fresh they have a lively color and pleasant smell. When boiled, the tail will be stiff, and pull up with a spring, if fresh. The cock lobster is preferred, though smaller than the hen, and may be known by the narrow back part of his tail, and the two uppermost fins within it being stiff and hard. Those of the hen are broader and more soft.

CLEARING OF WOODLANDS.

There are few evils more to be lamented than the wanton destruction of young growing wood. Notwithstanding the consumption of timber and fuel is so great in almost every settled part of our vast territory, and the demand promises before many years to exceed the supply, it is painful to behold the useless and reckless warfare which is so frequently waged against our forests. "France," observed an eminent statesman, "will decline, as many flourishing countries have, if she does not follow the example of Cyrus, who planted forests in Asia Minor. It is only the abundance of forests and water, that enables China to support her 300,000,000 of people; because, in that empire, there are planted more trees than destroyed. Spain, so highly cultivated, and so densely populated, in the time of the Romans, the Moors, and even Charles V., owes her desolate aspect at present, to this waste of wood." The same is the case with several parts of Asia, as well as of South America, Mexico, and California, and the same will inevitably be the result in this country, unless efficient and frugal means are speedily adopted to prevent its waste.

With many of our farmers, it is customary to pursue a very injudicious course in regard to their woodlands, selecting the older and larger trees, or those which are decayed or dead, with the view of leaving the younger or more vigorous ones to grow. By this method it is next to an impossibility to fell large trees, without serious injury to the smaller ones, which must inevitably be more or less mutilated or crushed to the ground. Hence, if the growth be thick, numerous openings will be made, and roads, or pathways, must be cleared, in order to haul out the wood after it is cut.

In France, the most economical plan of managing woodlands, is, to cut clean and smooth as you go. The clearing thus made, if intended for future growth, is not burnt over as with us, but is immediately enclosed and carefully protected from the depredations of cattle, sheep, &c., allowing the young sprouts, which start with vigor, to pursue their growth unmolested, until they are beyond the reach of harm. In felling a tree, the closer it is cut to the ground, the more will be gained in wood, and often it will well pay the farmer to grub it up by the roots; for, the nearer the ground, the larger and stronger the trunk, and even the roots of some kinds of trees are highly valued for numerous purposes in construction, as well as in the arts.

Steep for Indian Corn.—Take 1 lb. of saltpetre (nitrate of potash), and dissolve in 6 quarts of water; or 2 lbs. of copperas (sulphate of iron), may be dissolved in 5 or 6 quarts of water. Let your seed corn soak in the mixture from 24 to 36 hours before planting, and it will not only be less liable to the attacks of birds and worms, but the young plants will take an earlier start and be more vigorous in their growth.

A Productive Apple Tree.—It is stated that an apple tree in Duxbury, Massachusetts, has yielded *one hundred and twenty one* bushels of fruit in a single season, a quantity sufficient to make fifteen barrels of cider.

LONG ISLAND PEACHES.

It has long been the opinion of many, that the soil and atmosphere of Long Island, from its proximity to the ocean, are unfavorable to the successful cultivation of several of our garden fruits, particularly that of the peach. But when it is considered that the little peninsula of Delaware, which is but a trifle larger than Long Island, produces the peach in the greatest abundance and in the highest state of perfection, all arguments like the preceding will appear fallacious. Moreover, we have an instance before us, where the cultivation of the peach on Long Island, has been crowned with the most complete success.

On the 1st of October last, we visited the peach orchards of Mr. John I. Stoothoff, situated on the Rockaway road, directly at the head of Jamaica Bay, six miles from the Atlantic, and two miles south of the village of Jamaica, where they receive the uninterrupted effects of salt air and ocean winds. These orchards are two in number, one containing originally 2,500 trees, five years planted, and the other 1,050 trees, four years from the bud. The soil, in which they are planted, consists of a very fine, light sandy loam, poorer than the lands at Flatbush, and similar in character to those of Islip, and several points farther east. The trees were generally planted from 18 to 20 feet apart, and, with the exception of a portion of those of the larger orchard, all appeared exceedingly vigorous, although they had somewhat suffered from mutilation in gathering the fruit. Mr. Stoothoff was about completing his harvest, having been engaged in sending his fruit to the New York markets, since the 12th of August, between which time and the 3rd of October, he sold 2,637 baskets, bringing in the aggregate, $2,600.18. The trees from which the fruit had not been plucked, at the time of our visit, were actually bending to the ground with excessive weight, and finer looking peaches we never saw. The varieties principally cultivated, were the red rareripe, early and late malacotones, lemon clings, and Morris whites.

At the time of planting the trees, Mr. Stoothoff cuts off the tap root, if there be any, in order that the other roots may take a horizontal direction near the surface of the ground, and receive the full benefit of the manure and the vivifying influences of rains and dews. The first year after he plants his trees, he cuts off the trunks or stems from two and a half to three feet above the ground, in order to allow the future branches to start low and form a bushy head. In winter, he prunes his trees by cutting away all dead wood, and in summer he thins out the superfluous branches, in order to admit the sun and air. In the month of June, and again in September, the earth is drawn from each tree, the roots carefully scraped, all borers cut out with a knife, and the earth properly put back in its place.

Mr. Stoothoff, for two or three years past, has been in the practice of planting asparagus and peas in his orchards, manuring them with wood ashes and stable or barn yard dung. The cultivation of garden vegetable among fruit trees, however, he does not fully approve. He thinks it preferable to keep his orchards clear of weeds by frequently scratching over the surface with a cultivator, and manuring each tree, within a foot or two of the trunk, with six to ten fish (moss bunkers), covering them over with three or four inches of earth. To the last named circumstances and the great care observed in removing the tap root and extracting the borer, it is probable the success of his peach culture mainly depends.

Mr. Stoothoff has kept an exact account of the products of his two orchards the season past, from which we copy the following, including the amount of sales :—

2,780	bunches of asparagus, ...	$418.10
431	bushels of early peas, ...	425.50
261	" late "	185.75
41	" Sickel "	17.25
2,637	baskets of peaches, ...	2,600.18
		$3,646.78

These orchards contain about 28 acres, and constitute a part of the farm recently owned by James Campbell, Esq., late Surrogate of the city of New York.

PROPER REPOSE FOR CONSERVATORY OR WINDOW PLANTS.

Plants under artificial treatment, it is well known, cannot long exist in good health, without a period of repose. Consequently, various directions have been given respecting their management as regards the proper state in which they should exist previous to their resting season, and how that rest should be produced.

One person recommends withholding moisture, another advises as much exposure as possible to solar influence; a third, close confinement and high temperature; a fourth, full exposure to the open air, with all its vicissitudes; a fifth says, curtail the roots and retard over luxuriance; a sixth, annually divests the plant of a portion of its roots; a seventh tells you to prolong the growing season by encouraging early growth; and finally, an eighth recommends freely thinning out the top. Now, all of these rules may be very proper when judiciously applied; but what is the inexperienced beginner to do, with such conflicting directions before him, any one of which, if carried to excess, it is well known would prove injurious to the plant?

The question then arises, how is a proper state of repose to be attained. Heat, cold, moisture, drought, light, shade, and air, are necessary agents, so far as climate and atmosphere are concerned, for promoting health and vigor, and are all requisite in various proportions, according to the nature of the plant, and under some circumstances for adjusting its habit. For instance, if the plant be of a stove or hot-house kind, which came from a tropical climate, where the rainy season occurs when the sun is nearest and spring and summer are combined in one; while, on the other hand, the dry season answers the same end as a low temperature does in colder climates, by withholding moisture, and consequently suspending vegetation, moisture should gradually be withheld from it, both from the soil and atmosphere for a short time, and plenty of solar light and heat admitted in its stead. Again, natives of a milder climate, such as may be strictly termed green-house plants, which would perish from a much less drought, should be placed in a cooler situation, in order to slightly suspend the

supply of moisture at their roots. To effect this object, in autumn or winter, they may be allowed to remain out of doors as long as there is no danger of their being injured by frost.

It may be laid down, as a general rule, that, the plant, which is between the extremes of leanness and obesity, as we may say, is in the most proper state for resting; for the least tendency to the one state or the other must be at the future expense of growth, bloom, or fruitfulness. All plants should be encouraged to make fresh growth directly after they have done flowering; and, when such are matured, they should be subjected to a period of rest; otherwise, the blooming season will become disturbed, which is indeed apparent by some of the shoots producing blossoms long before the general time of flowering has arrived, destroying, of course, the beauty of the plant.

BURR STONE MILLS.

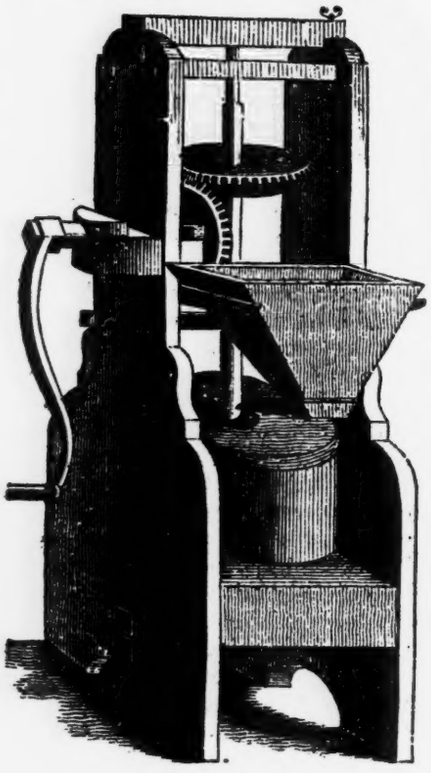


FIG. 13.

BURR STONE MILLS (fig. 13), are adapted for grinding all kinds of grain.

16	inch stones	grind	2½	bushels	per hour.
20	"	"	3	"	"
24	"	"	3½	"	"
30	"	"	5	"	"

These mills are ready framed and rigged to attach the power, and are more particularly designed for plantations at the south. When we speak of their performance, it is to be required that they should be driven at a proper speed and with sufficient power.

CONSUMPTION OF WOOD IN THE UNITED STATES.—According to the careful calculation of a skilful engineer, the present demand for wood, as fuel, in this country, is equal to 10,220,000 cords per annum.

SEASON FOR CUTTING TIMBER.

THERE are few subjects connected with rural economy, about which more has been written and with more opposite opinions, than the proper season for felling timber.

One class pertinaciously contend, that timber intended for building houses and ships, or for making farming tools, machines, &c., should be cut *near the end of the third quarter, or beginning of the fourth quarter of the moon, in February*, at which period, they say, there is the least sap in the trees, and when, if cut, their timber is less liable to powder post, or rot. Another class maintain, that it should be felled between the time of putting forth of the leaves and the period of suspension of the ascent of the sap (from May into August, in the middle and northern states), which is then thin and easy of evaporation, while the pores of the wood are most open, and devoid of fermentable matter, or starch; for, after August, it is asserted that, deciduous leaves form no more wood—all of the carbonic acid, which the trees then absorb, being employed for the production of nutritive matter for the succeeding years. Instead of woody fibre, it is found, that starch is formed and diffused throughout every part of the sap wood by means of the descent of the autumnal sap. Hence, they say, at mid-summer, the trees afford no nourishment to worms, which are the origin of powder post, nor to parasitical fungi, the immediate or approximate cause of *dry rot*.

A third class advocate the operation of felling to be performed in Autumn, after having taken off the bark of the trunks of the trees early in the spring, and suffering the new foliage to put forth and die. By this process, it is said, that, in consequence of the germination of new buds, the starch, or saccharine matter in the tree is expended, and that the sap wood then becomes nearly as hard and durable as the heart wood, being stronger and less liable to decay, or to be penetrated by insects, or worms.

If all of the above methods have in truth the good effects thus attributed to them, the dispute in relation to the season of the year proper for felling timber is needless; but as most of the experiments heretofore tried, were made upon hickories and oaks, there is no certainty that these practices may be extended to various other trees. A majority of instances, both in Europe and this country, is in favor of winter felling; although there are numerous well authenticated cases where timber has proved equally durable, that has been cut in June or July. After all, much may depend upon the soils, aspects, latitudes, and elevations, in which the trees may grow; and more, perhaps, in the manner of seasoning and preserving the timber after it is felled, the two latter of which, will form the subject of an article in our next number.

TO PROMOTE THE VEGETATION OF OLD SEEDS.—A small portion of superphosphate of lime mixed with seeds, when sown, in sufficient quantity to give them the appearance of being limed over, will cause them to germinate quicker and stronger, more especially in the case of old seeds; and it is also found that the plants are less liable to be injured by insects.

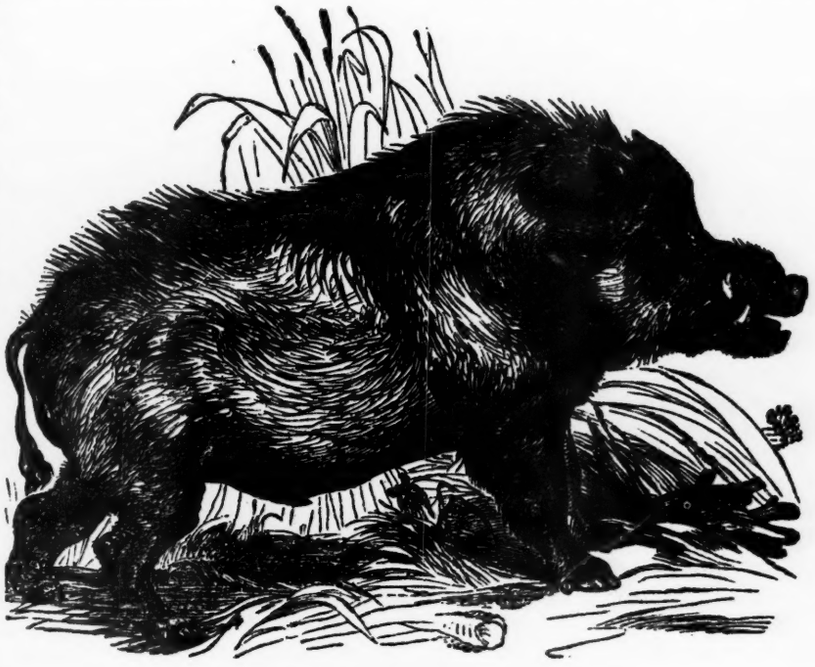
SWINE.—No. 2.

BEFORE we proceed to give an account of the different breeds of swine (other than the Chinese), that have been imported into the United States from time to time, and which have proved of the greatest benefit to our country, it may be proper to describe the originals, which were probably used in Europe in crossing with the Chinese, to produce those breeds. These were undoubtedly the wild hog, fig. 14, and the old English hog, fig. 15, and other cognate breeds. All these crosses, properly speaking, the breeding of which we have had an opportunity of watching attentively, will occasionally cast a pig showing more or less traits of the wild hog, or the old English, or some allied breed, which is a sufficient proof, to our mind, that they were made in the way of which we speak.

When we were in England, we saw several specimens of the wild hog, at the magnificent Zoological Gardens in Regent's Park, and other places, and took notes of their characteristics. The Asiatic specimens were about 30 inches high at the shoulder; the head and snout thin, straight, and rather long, than otherwise, the jaws armed with long, formidable tusks; eyes large, fine, and expressive of mildness, owing doubtless to their kind treatment in confinement; ears short and erect; neck thick, muscular, and of medium length; chest thin, though of good depth; shoulders full, with a half shield of thick folding skin over them; barrel of medium length, breadth, and depth; rump steep; hams well turned in towards the body; thin behind and not very well let down in the twist; legs and feet fine and of moderate length; tail short; hair thin, short, stiff, and coarse, with thick, long strong bristles; color of the snout, ears, around the eyes, the tail and legs, dark brown; color of the hair grey, something like that of the American wolf, though darker, with the ends of the bristles slightly tawny. The boar in fair store condition, we judged would then weigh 300 lbs. alive. The female closely resembled the male, though smaller, finer, and with fewer bristles.

The African wild hogs were much like the Asiatic, with the exception of some white under the throat and belly. The legs and snout were shorter, the tail long and bushy, with a white tuft at the end. They had a slight general resemblance to the Siamese.

We are of opinion that Youatt's description of the wild boar was written after an inspection of the hunting scenes, which adorn the picture galleries of English noblemen. In these he is represented as a savage monster, chased and attacked by packs of large, fierce hounds, and huntsmen well armed on horseback. He says "the wild boar is generally of a dark brown or iron grey color, inclining to black, and diversified with black spots or streaks. The body is covered with coarse hairs, intermixed with a downy wool; these hairs become bristles as



THE WILD BOAR.—FIG. 14.

THE OLD ENGLISH HOG.—FIG. 15.

they approach the neck and shoulders, and are here so long as to form a species of mane, which the animal erects when irritated. The head is short, the forehead broad and flat, the ears short, rounded at the tips and inclined towards the neck; the jaws are armed with sharp crooked tusks, which curve slightly upwards, and are capable of inflicting fearful wounds; the eye full; neck thick and muscular: the shoulders high; the loins broad; the tail stiff, and finished off with a tuft of bristles at the tip; the haunch well turned, and the legs strong." The wild boar is a very active and powerful animal, and becomes fiercer as he grows older. Some travellers assert that he lives to be 30 years old, and not unfrequently attains the height of forty inches at the shoulder.

The old English hog Youatt describes "as long in limb, narrow in the back, which is somewhat curved, low in the shoulders, and large in bone; in a word, uniting all those characteristics which are now deemed most objectionable, and totally devoid of any approach to symmetry. The form is uncouth, and the face long and almost hidden by the pendulous ears. They nevertheless have their good qualities, although aptitude to fatten does not rank among the number, for they consume a proportionately much larger quantity of food than they repay; but the females produce large litters, and are far better nurses than those of the smaller breeds. They are, however, now nearly extinct, disappearing before the present rage for diminishing the size of the hog and rendering his flesh more delicate; points which, however desirable to a certain extent, may easily be carried too far. Low judiciously observes: 'While we should *improve* the larger breeds that are left us, by every means in our power, we ought to take care that we do not sacrifice them altogether. We should remember that an ample supply of pork is of immense importance to the support of the inhabitants of this country. England may one day have cause to regret that this over-refinement has been practised, and future improvers vainly exert themselves to recover those fine old races which the present breeders seem aiming to efface.'"

From a mixture of these materials, namely, the fine compact, round Chinese, with the strong rugged, wild boar, and the great, coarse, long, deep, flat-sided old English hog, it will be seen at a glance how numerous the breeds could soon be made; and when we take into consideration the modifications which arise from the different treatment of swine throughout Asia, Europe, and America, and the difference in climate, we shall cease to wonder at the innumerable varieties which now pervade the world. No animal can be more rapidly changed in its general characteristics than the hog; and nothing improves faster with care and good keep, or more quickly degenerates from neglect and poor feed. If wild hogs are wanted, they can soon be obtained by letting them run unattended a few years in the woods; but if a choice domestic breed is sought after, it can only be had by judicious crosses, good feed, and keeping them in pens, or within the bounds of moderate sized fields.

Frost Bites should be rubbed with cold flannel or fine snow, avoiding the fire, or even a hot room.

GRAPE CULTURE AND WINE MAKING IN NORTH CAROLINA.

In a late number of De Bow's Commercial Review, there is a long paper on grape culture and wine making in the south, by Dr. Sidney Weller, of Brinkleyville, Halifax County, N. C. It appears from his statement, that, during his last vintage, he made 40 barrels of wine, which readily commands from $1 to $4 per gallon. His wines of inferior quality are made by adding, as a preserving ingredient, one fourth part, by measure, of good brandy; and those of the finest flavor receive three pounds of best double-refined sugar per gallon. "Spirits," he says, "add their own bulk to the volume of the liquor; sugar adds very little to the volume; hence, mainly, the difference in price."

The variety of grape, which Dr. Weller considers best adapted for the south, is the White Skuppernong, said to have been first found on Skuppernong Island, in the river Roanoke. When properly managed, it does well everywhere south of latitude 37° north, and the grapes attain a very large size. "I have frequently measured selected ones," observes Dr. Weller, "and found them to be three and a half inches in circumference; two I have found four inches round. They are ripening here about two months; and that period ensures *successive gatherings*; and the *most delicious* of grape fruit." The kinds next in esteem to the Skuppernong, are Weller's Halifax Seedling, Norton's Virginia Seedling, Le Noir, North Carolina (Bland's Virginia?), Hunterville, Franklin, and some other varieties, which are not inclined to rot.

Dr. Weller thinks it decidedly best for the American vine grower to start his vineyard with well-rooted vines, reared in a nursery or elsewhere from cuttings or layers. "Even in grafting," he says, "it is better to begin in the nursery and transfer into the vineyard after a year's growth." This is a common method with him, although a considerable portion of his vineyards has been obtained by searching the woods late in the spring, when the vine is in leaf, and getting stocks and roots of the fox grape, or other wild varieties in the vicinity, an inch or more in diameter, grafting them with scions kept back from sprouting in a cool place, of Weller's Halifax and Norton's Virginia seedling, and then planting them in his vineyard 10 feet apart each way. He says it is the uniform result of long experience, that, if grafting be effected on stocks thus procured or dug up from the woods, with due pains taken, success will surely follow, if done at any time from the complete fall of the leaves in autumn until late in spring, or even in summer, when the scion can be kept back from sprouting. But if the graft be on a stock, not dug up, nor stand where it is to remain, the grafting must be performed in early winter or in the fall.

In grafting the vines, all that is to be done, is, to saw off the stock within a few inches of the ground, and insert a scion, containing two or three buds, wedge-fashion, or otherwise, as in grafting fruit trees; and then, without any clay or grafting wax, to draw earth around the stock, a few inches high, leaving one or two buds exposed to the sun. But to avoid disappointment, the vine dresser should be aware that more trouble and attention is required in pulling off sprouts from the old stock, as they spring

forth to rob the scion, than in the first process of grafting itself; and this is more frequently the case in grafting on stocks, standing in their original sites, than in those procured from the woods. To compensate for this, however, the growth from the former is much greater than from the latter, being, in the first instance, not uncommonly 30 feet in a season, and in the other only 8 or 10 feet. Grafts often bear fine clusters of grapes the first season of growth, and pretty considerably the second. A few years since, Dr. Weller says that he had the curiosity to measure the second season's product of a Halifax vine, which he had grafted on a tolerably large stock. It was half a bushel of fine grapes—equivalent to a gallon and a half of wine, if made with sugar, as the keeping ingredient, or two gallons if made with spirits.

Another reason, assigned by Dr. Weller, why it is preferable that an American vineyard should be started at once with rooted vines, is the greater distance they may stand apart. "The very luxuriant, far-extended growth of grape vines in our forests and hedge rows," says he, "is the true *model of nature*, pointing out the *unerring* plan for an *American vine grower* to pursue. So long as I disregarded that model, I found the vineyard an *uphill* business. But the wished for success followed, after giving ample room, on every side for the vines to expand themselves—first unchecked in length upwards, and then sideways, on trellises and scaffolding, so that, at length, underneath the canopies, nothing is to be seen from 6 to 8 feet from the ground, but main vine stems and supporting posts. The common distance apart, I have planted Skuppernong vines, is 20 feet, and other kinds 10; but I now consider 20 feet too near for the Skuppernong, 30 or 40 feet being better, unless it is calculated to remove every other one before they become too large. A Skuppernong fourteen years old, from planting, I measured to-day, and it covers an area whose diameter is 50 feet. Another, now in view from my office, runs 30 feet on scaffolding, and then ascends an aspen tree, spreading over its branches to the height of 40 feet; the aspen tree full of grapes, so to speak. About ten years since, I planted two vines of this kind in the garden of a neighbor—trained from the garden on some oak trees, in a grove. A barrel of wine was made from it, last vintage, besides an abundance of fruit for family use; and I was assured, that, if all the grapes had been saved, another barrel would have been the result. A vine in the lower part of this state, near Skuppernong Island, in the Roanoke, produces its annual yield of five barrels of wine, I am most credibly informed. With myself, and others in this region of country, Skuppernong vines have produced at rates of 2,000 gallons per acre."

Another of nature's models, Dr. Weller says, gave him a hint to let his vines have the same advantages, as to roots, as those of the trees of the woods, or old piny fields; that is, to secure the falling leaves, in autumn, from blowing away, by scarifying the ground about the roots, in order annually to increase the fertility of the soil, instead of direct manuring.

In reference to the preservative ingredient necessary for keeping good wine, Dr. Weller contends, that there is an error in the practice of American wine making, founded on the false idea that the juice of our grapes is as strong as it is in foreign countries; and, consequently, needs no other requirement in safely keeping our wines. All good authorities on the subject, he asserts, concur in the idea, that, while American vineyards far exceed European in yield, they fall far short in the strength of the juice; and, therefore, corresponding keeping ingredients must be used, or no adequate success can be expected. He says that he, as others, has made wine without such ingredients, when the grapes were quite ripe, and shrivelled; but this will not do as a business, since the quantity of juice is small, and the fruit may drop or spoil, by being left too long on the vine, which show that the plan is unprofitable even if it were practicable, without some preservative ingredient as sugar, spirits, or both. He further states, that, some years since, he experimented in that way to the loss of half of his vintage. "But with a steady eye," he adds, "to the physical fact of the comparative weakness of the American grape juice, and adding a plenty of sugar or brandy, or both, I have lost no wine for several years; and from reliable sources, I learn that most European wines, for safe keeping, have spirits added to them, more or less, as the Port wine, ere it crosses the ocean, one third; and I venture the suggestion, that, if more of the spirits made in this country, were added to the grape juice, or used as in wine making in foreign countries, instead of being drunk in its crude state, it would be much better for the temperance cause. * * * * * One thing is certain—all wine, properly so called, has alcoholic power therein, generated by fermentation, if not otherwise acquired. Scripture wine was clearly alcoholic, from the fact of its excess producing intoxication, and the Bible warns against drunkenness by its intemperate use."

In speaking of his own experience in wine making, Dr. Weller states, that, in September, 1846, he made 33 gallons from five bushels of white Skuppernong grapes, *half green ones*, two bushels of purple Skuppernong (Bland's Virginia grape?), and two and a half bushels of common bunch grapes of the woods, with the addition of 20 lbs. of Muscovado sugar and 8 gallons of good apple brandy. The grapes were mashed between two wooden rollers, the juice of which was allowed to ferment two hours. It was next strained through the folds of a woollen blanket, as it run from the press, and then put up in a new cask, fumigated with a sulphur match, where it was allowed to stand, undisturbed, in a wine cellar, until the time it was racked off. This wine sold readily under the name of "Weller's Skuppernong Champagne," at $2 per gallon.

In another instance, seven and a half bushels of white Skuppernong and three and a half bushels of colored Skuppernong grapes were mashed at night, pressed and strained off, the next morning, which yielded 31½ gallons of juice. The liquor was then put up into two separate casks, one containing 20 gallons of juice, to which were added 50 lbs. of common brown sugar, increasing the volume of the liquid to 23 gallons; and the other containing 11½ gallons of juice, with the addition of 34½ lbs. of double-refined crushed sugar, which increased the liquor to 13 gallons. The former was sold under

the name of "White Skuppernong Hock," at $2 per gallon: and the latter, at $4 per gallon, under the name of "Red Skuppernong Hock," and was pronounced by good judges, as superior to foreign wine.

EDUCATION OF FARMERS.

It is a matter of profound astonishment to all who have ever seriously thought on the subject, that in the liberal provision made for the study of the different branches in our schools and colleges, agriculture has been so entirely neglected. Millions of dollars have been paid the professors of theology, law, medicine, astronomy, mathematics, languages, history, natural philosophy, zoology, botany, geology, mineralogy, chemistry, and the destroyers of life and property, and scarcely anything yet for agriculture! One would suppose among a people, the great majority of whom are dependant upon the occupation of this art for their existence, that the study of an improved culture of the earth would be paramount among them. Not so, however, in this country; that is left to take care of itself, and come by intuition or not at all. With all their ample school funds, paying incomes of several millions of dollars annually, the older states do but little for agriculture; and the new ones, though even more liberally endowed, follow in their footsteps.

It was with some surprise that we saw stated in the Journal of Commerce, of this city, not long since, that the general government had given to Ohio, Indiana, Illinois, Michigan, Iowa, and Missouri, three hundred thousand acres of land for colleges and academies, and five millions, five hundred and fifty thousand acres for common schools, besides paying three per cent. of all proceeds of public lands over to these and other states in which they lie.

What magnificent grants! And pray what is done with all this land and money? Most of it we will believe is faithfully expended in teaching the children of these states the essential branches of education, such as reading, writing, and arithmetic; while we know a good deal of it goes to make theologians, doctors, and lawyers. All these are necessary in their way, especially the former; and no one would be more liberal in the education of what is technically termed, *par excellence* professional men than ourselves; but if the choice lay between an elevated education of a professor of agriculture, rather than that of law, we should decide at once, if any must suffer, it should be the latter, and not the former. But there is no need of this suffering; yet there is very great need that professorships of agriculture should be endowed and more honorably thought of throughout the country. For many years past, European governments have been quite alive to the importance of agricultural schools, and every little while we find in our foreign journals, notices of new ones springing into existence like the following:—

A writer on the subject of the low state of agriculture in the county of Cornwall, says, "but it is to be hoped that this will soon be improved. Hitherto, there has been no institution where the sons of farmers could be properly educated. A new agricultural school is about to be erected; to it will be attached a model farm. The pupils will receive a good practical education, to which will be added a knowledge of the natural and other sciences so requisite to agriculture. The terms, I believe will be fixed at such a price as to be within the reach of all. It will then rest entirely with the parents whether they wish their sons, destined to cultivate the soil, to become acquainted with the science of agriculture based on true principles, or to plod on the old jog-trot way, remaining in total ignorance of those principles of which I am sorry to say many of the farmers of Cornwall are."

Now let *us hope* also in this matter, and not only *hope* but *act;* then shall the profession and practice of agriculture take that high stand among us, which the immortal Washington gave to it when on earth—exalting it above and before all others

HOW TO MAKE FRUIT TREES BEAR.

The Southern Cultivator, it seems, has taken exceptions to our reply to J. S. Peacocke's inquiry, in our November (1847) number, in relation to the non-productiveness of a pear tree, which blooms well and puts forth leaves in profusion, but in a short time the blossoms all fall off. According to the *theory* of the editor of that paper, the failure in fruiting "arises from too great luxuriance—the organization of too much wood, which robs the fruit germs of their share of nutriment." "The remedy," he says, "is to prune both the roots and the branches of the tree. Prune its roots and you will see that the petals will hold on for a due season, and fruit come to maturity."

What is here recommended may prove true at the north, and perhaps it may also apply to the south. We therefore would not discourage its adoption, but should hope that the *theory* might be tested along side of our own.

ON REARING CALVES.

The business of raising calves, some persons treat, as of no great importance, sometimes feeding them twice a day on milk, another day so much, and a third day, with a quart or two less, just as it may happen. But this irregularity is a great mistake, as young calves need constant care, as well as chickens, pigs, &c. Many people take more pains in feeding their dogs and cats than they do with their cattle and hogs, all of which, I admit, should be well fed to be useful and to thrive. For, in order to have fat pork, you must feed your hog, or pig well; or to have a large fat cow, you must take good care of her when a calf. This I consider the best and the only way to have good cows.

Last year, I raised a calf, which I bought when only two days old, and took it immediately away from the cow. I first began to feed it on milk and English hay tea. As soon as my stock of hay was gone, I commenced making tea from salt meadow hay, which I soon found answered very well; for it learned the calf to eat salt hay from the stack, which it seemed almost to prefer to good English hay.

Another way to raise calves, is by hand. If taken from the cow immediately after birth, there will be no difficulty in learning them to eat, first giving them, three times a day, "loblolly," made of half a pint of corn meal and a pint of new milk.

A calf may readily be taught to suck its food, simply by pressing its head into a pan, or pail of loblolly, with one hand, and inserting the fore finger of the other into its mouth. By this means, it will instinctively suck up its beverage. When calves are about six weeks old, you may turn them out into a field of grass; and if you wish to force their growth, continue to give them loblolly twice a day. By so doing, you may increase their size fully one third. In summer, about mowing time, it is well to give them some cut grass. In winter, the best thing to feed them on is pumpkins, turnips, and potatoes, cut into fine pieces, with small "nubbins" of Indian corn, and a little salt or fresh hay.

Some persons, in summer, turn their calves into the road to pasture, while others drive them to the mountains, and back again in the fall. In winter, they feed them on salt hay; but I do not like the plan of letting them run at large. It stunts their growth, and makes them poor and lean. If you want a good fat calf, you must constantly keep him under your care and feed him well, which you will find far preferable to any other way. W. G. B.

Newark, N. J., Dec. 20th, 1847.

PRESERVING EGGS AND FRUITS—EGG NOG, &c.

INCLOSED I send $2 for three years' subscription of the Agriculturist, which I regard as one of the best papers in the United States. Although I am a manufacturer, I cannot do without it. My wife says it is worth $20 to her for culinary matters. Last May, I put up, according to the directions in your published receipt, a large jar of eggs, at four cents per dozen; and this morning, I took them out to make egg nog for the ladies (Lord bless them; for they must all have egg nog on Christmas, in Kentucky), when I found them as fresh as the day when they were put up. My currants, gooseberries, and cherries, also preserved after your receipts, are all as fresh as a new-blown rose.

My neighbors wish to know where I get eggs at *four cents per dozen*, while they are paying this morning *forty cents* a dozen—or no egg nog. I tell them they do not subscribe for the Agriculturist, a great paper published in New York, which if any man dare not take, he is certainly blind to his own interest. C. I.

Louisville, Ky., Dec. 25th, 1847.

OLD PEAR TREES IN BOSTON.

FROM the authority of the late Samuel G. Perkins, in the Horticulturist, we make the following extract, which shows the fallacy of the popular notion that fruits "run out," in consequence of the death of the parent tree:—

The French Huguenots, who settled in and about Boston, in the early part of the last century, were many of them men of wealth, for that period, and they purchased house lots of considerable extent in the town of Boston, and in the towns in its neighborhood, which they stocked with the best fruits of their native land. This fact is not only a matter of history, but within my day; for I can look back and recollect distinctly the many gardens that were furnished with the largest trees of the finest fruits, that were *common* throughout the town even as late as the year 1810, or even 1815, after which the increased population covered the gardens, and most of the trees, with their luxuriant fruits, soon disappeared. There are a few solitary trees of the old fruits, of a hundred years standing and more, left in yards, which continue to produce the finest St. Michaels, Saint Germains, Brown Beurrés, Vergouleuse, Winter Colmars, Winter Good Christians, Easter Bergamots, Mesire Jeans, etc., as fine as they did fifty or sixty years ago; but of those, only one old fruit garden is left, that I recollect, and that is the one belonging to the late S. P. Gardner, Esq., in Summer street. Here these fine fruits are all raised in perfection, on trees probably more than a century old, under their proper and appropriate names.

MANAGEMENT OF HONEY BEES—No. 16.

Reason and Instinct of Bees.—Perhaps there is no insect that manifests so great a degree of knowledge and art in its domestic economy, as the honey bee. The beautiful architecture displayed in their never-varied hexagonal cells, their perseverance and industry in laying up stores for winter use, the astonishing expedients made use of in repairing accidental damages to their internal household arrangements, together with the perfect harmony exhibited in their civil relations, put to shame the vaunted science of man, and his boasted ability for self government. Many acts of the honey bee seem to be an inherent knowledge, while others appear to be the promptings of acquired reason, and it is a question whether every act is not the effect of instinctive knowledge, implanted from birth. It must suffice my present object, to give a few instances of reason and judgment, manifested by bees, under my own notice, and to make a few remarks upon their general habits and customs.

When the young brood is fully matured, or a sufficient number thereof, to form a swarm of say, ten thousand bees, a queen is ready to sally forth with them. Instinct has taught them to provide a sovereign, and teaches them that they *must* depart. In this departure, they manifest a knowledge equal to that of human beings. They never venture out when there are the least symptoms of unfair weather. High winds also prevent their egress; but when everything is propitious, they rush to the outlets, on a signal being given, headed, or followed by their queen. Now mark the slow and beautiful girations of the dark mass as they hover gently around the hive, to give all that is necessary a chance to join the emigrant family. But why alight on yonder slender bough? It is to be assured of the presence and safety of their queen. Now they are fully clustered, let us approach the pendulous mass. Hark! Do you hear the *buzz* that resounds among them—do you see how the masses move in eager and disturbed commotion? *Their queen is left behind, or has been unable to gain the cluster*—now they leave by hundreds, and return to the hive! On the morrow they will again come forth, and after clustering and being assured of the presence of the queen, unless a hive is tendered them, they will take a sudden and rapid flight to the forest. It is seldom that the queen remains behind, but in such a case, the bees show the most intense anxiety and distraction. A

ship in a storm, without a pilot—without a helm, and being suddenly supplied with both, would not sooner dispel the fears of the affrighted mariners, than would the appearance of the lost queen tranquilize the commotions of the agitated swarm. Without a queen their ruin is certain, but instinct teaches them never to leave without her.

This is but one instance in a thousand of the manifestation of reason in their acts. The knowledge displayed by them, when attacked by the moth is remarkable. On the first lodgment of this pest, they use propolis to cement them in, and when the worms show themselves, they are dragged down, and ejected from the hives. I once saw several bees at work upon a very large moth worm, and on examination, I found they had disjointed every leg, and then they left it. It remained alive twenty-four hours without the least power of locomotion. When, by accident, a leaf of comb becomes detached, no human knowledge could devise better means of remedy. Pillars are constructed to support the detached parts, till they can be firmly fastened, when they remove them. On placing a piece of comb filled with honey upon the floor of the chamber of one of my hives, for the purpose of feeding, in the month of May, I found on the second day, that the bees had by some means raised this piece of comb about half an inch, and had constructed several pillars to support it. The reason of their raising it, was because it covered some of the centre holes that communicated with the chamber of the hive.

A rather singular circumstance occurred this last summer, with one of my stocks of bees, showing a judgment and reason, worthy of particular notice. One of my stocks that had lost its queen during the early part of the season, while there were no larvæ in the hive from which a new one could be formed, was suffered to remove in consequence of my absence, in its position, till it had become entirely depopulated. On returning, I found the moths had taken possession, and the bees of the adjoining hive being aware of this, commenced building a wall of propolis along the entire entrance next adjoining this infected hive, to prevent any incursions of the enemy on that side. The bottom boards were hung about the same level, and only a few inches apart. This wall was not fully finished, but it shows a reason and knowledge of adapting means to ends far beyond the ordinary tribes of insects.

But a very remarkable instance of sagacity occurred a few years ago, under my own eye. I had a few hives made, originally, with holes of ingress and egress, about two inches from the bottom board, say half an inch wide, and three inches long. When I commenced *suspending* the bottoms, I shut up the aforesaid hole, to one of my hives by a strip of shingle, with a nail driven through one end, so as to admit of being raised up, and shut down, like the operation of a wooden button; with this difference, the shutter turned on a pivot at the end, while a button turns on the centre. With an opening around the entire bottom of the hive, I supposed this upper entrance would not benefit the bees; yet at times, I raised the shutter till it got so loose that it would fall of its own gravity. In this way, it was up one day, and down the next, for some weeks, till one morning I beheld about a hundred bees at work upon it while up, and the hole open, and during the day, they glued it to the hive with propolis, so as to require a considerable effort to remove it! Being satisfied that the bees wished to have it remain in that position, I did not disturb it thereafter.

Various other acts showing that bees possess the faculty of reason, in an eminent degree, have come under my observation, but the above are all that my limits will permit of being narrated.

T. B. Miner.

Ravenswood, L. I., Feb. 1848.

ON THE GENERAL MANAGEMENT OF THE PEACH TREE.

The peach tree, as a standard, in this country, appears to be short lived and irregular in bearing. The cause of this, I attribute to the want of training, thinning the fruit, and pruning the more fibrous roots.

I would recommend the planting, by all means, of maiden plants, worked on plum stocks, which are much hardier, and have a greater tendency to luxuriance. The holes should be dug out from four to six feet square, with a substratum of lime rubbish, firmly beaten down, and covered with a prepared soil not deeper than one foot. The ground about the tree should not be cropped, but should be covered with rotten dung, and decayed leaves, during winter, which should be carefully forked in early the following spring, and hoed and kept clear from weeds during summer.

Planting peach trees in a kitchen garden, is a bad practice, although generally prevalent. The vegetables so grown, seldom attain a proper size and flavor, without injuring the fruit above them.

I would also recommend training the trees to a hoop placed inside, and the shoots made to represent an inverted umbrella. The general pruning to be done after the buds break, and then with the thumb, displace all superfluous shoots, leaving only those wanted for bearing the next season. The fruits also should be thinned, which makes them larger, earlier, and finer flavored. Wm. Whedden.

New Rochelle, N. Y., Dec. 14th, 1847.

HAULING FUEL.

The advantages of using dry wood for fuel, instead of green, must be obvious to every observing mind. Green wood, cut in winter, in lengths of four feet, and split fine enough for convenient handling, may be drawn together and piled up, near the site where it grows, so as to be well exposed to the sun and air, with the tops of the piles secured against storms, by a covering of boards, where, in a few months, it will become sufficiently dry for use.

In treating wood in this manner, there is frequently a gain in hauling of 20 to 25 per cent. by reason of the loss of weight in drying, as well as its improved condition for the fire. It was estimated by Count Rumford, that an average cord of green wood contains more than two hogsheads of water; and the waste of heat in evaporating this quantity of water, would raise thirteen and a half hogsheads of water to a boiling point. The buyer of wood may learn from these facts the advantages of dry wood over green, as an article of fuel; and the seller, who has the wood to draw, may learn how to economize labor, by drying his wood. and thus disposing of one fourth of its weight.

YANKEE FARMING.—No. 2.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.—*Goldsmith.*

The Want of a Poultry House.—It was a cold, frosty night, with a deep snow lying on the ground, in the latter part of the month of February, that having nothing particular on hand to attend to at home, I thought I would go down and pass the evening with Mr. Doolittle. I rapped at the door, when at the usual "come in" of his deep, hoarse, voice, resounding through the hall of the old house, I ushered myself into the kitchen without further ceremony, knowing full well that there I should find the family; for, being so near a neighbor, it would have been considered over precise in me to have sought them anywhere else.

Uncle Sim's family consists of his wife, a tall, lean woman with sharp features, familiarly known over the neighborhood as "Aunt Nabby,"—a roguish, hazle-eyed, rosy-cheeked, buxom daughter of fourteen, happily, unlike either parent; a tall, gawky son of seventeen, in features closely resembling the mother; and a stout, ruddy lad, some five years younger, a picture of the father. As to the character of these personages, I shall let that develop itself, as I proceed in my sketches.

The kitchen is such as is common in old-fashioned country houses. It is a long, low room, with large, dark brown-colored beams and joists over head, and plank wainscoting, and partitions of the same color all round. A huge fire place, at least eight feet in length, made of heavy granite blocks, faces one side of the room, a buttery is partitioned off at one end, and the sleeping chamber of the master and mistress at the other. Aunt Nabby was sitting bolt upright before the fire, in a straight-backed, old-fashioned rocker, with arms attached to it, knitting her husband a pair of blue yarn stockings. Mary, the daughter, or "little Molly," as we generally call her, graced a strong, old oaken stool at her mother's feet, and was engaged in hemming herself a petticoat. Uncle Sim, in his shirt sleeves, the perspiration rolling freely down his burning forehead, and with a huge, iron-rimmed pair of spectacles mounted on his blunt nose, was astride a wooden shaving horse, with drawing knife in hand, finishing off a hickory axe helve. The oldest son sat at a table by the side of a dim tallow candle, doing sums on the slate, in decimal fractions, from Daboll's Arithmetic; while the youngest, at the further end of the fire place, perched on the blue dye tub, was alternately studying a lesson in Webster's Spelling Book, by the light of the fire, and gazing up the huge chimney at the bright stars sparkling in the clear wintery sky. In Aunt Nabby's lap lay a sleek tabby cat, purring harmoniously to the bubbling of a pot, in which was stewing dried pumpkin for sauce; while on the opposite side of her and Molly, lay couched fast asleep, a middle-sized, brindle-colored, bob-tailed dog, now almost blind, and completely superannuated by farm service, woodchuck killing, and coon hunting. A rural group, indeed, but such as it always gives me pleasure to see; for they are good people in the main, and useful to themselves and others.

"Take a cheer," said Uncle Sim, as the tall lad dropped his slate and pencil and handed out a seat for me before the fire; "and Molly, go draw a mug o' cider, that's a nice gal, now. Pretty cold out, ain't it, Sargeant? I hear the nails snappin' by the frost outside the house every now and then, as loud as the firin' in your company on trainin' day."

Scarcely had he finished these observations, when the sprightly Molly appeared before her father, holding out a large, bright, pewter mug, brim full of sparkling cider, which she had just drawn from a barrel in the cellar. Uncle Sim wiped the perspiration from his brow with the shirt sleeve of his right arm, next his mouth with the back of his hand, took a good swig, and then handed the mug to me, but declining the proferred beverage, he replied, "Oh, I forgot—joined the temperance and won't drink nothin' but water. Wal, 'every one to his notion, as the old woman said when she kissed her cow.' But what's the use o' apples growin' if a body can't make 'em into cider? What's the use o' cider if ye can't drink it? Aye, and what's the use o' anything if it can't be used? I'd like to know, now, Sargeant?" With this argument, Uncle Sim put the mug again to his mouth, cocked his eye up to the ceiling, and draining it to the last drop, slapped it down on the old oaken table, bottom side up, with a "wal" and a loud smack of his lips, "I didn't think I was so thirsty, raely; 'tis mazin' dry work makin' axe helves o' nights.

"Do tell, Sargeant, now," interrupted the impatient Mrs. Doolittle, "have you hearn anything about that 'ere patent hen's neest, way down to Inventionville, that keeps the hens layin' all the time? We haven't had a egg all winter, and I am dreadful fearful we shan't get one for settin' in the spring. Mr. Doolittle says he don't believe a word on 't; but I do, every bit; for I see it in the almanac; and the way was, as soon as the hen laid the egg, it rolled down through a little trap door into a basket, when the hen looking under her, could'nt find nothin' there, so concludin' she'd made a mistake and hadn't laid, she begun agin, and so kept on layin' as many as three or four a day, sometimes. He only asks five dollars for his patent; and sartin true, if I had one now, I could sell eggs enough before settin' time, to buy Molly a bran new silk frock, though she hardly desarves one; for she took it into her head last year—'cause she read it in somebody's book, or farmin' paper—I wish the feller half choked with a rotten egg who wrote it—that all the round eggs hatched pullets, and all the long ones roosters; so she sot nothin' but round ones, thinkin' she'd raise plenty o' pullets to winter over this year; but we never had so many rooster chickens afore in all my born days. I told Molly, says I, Molly, I don't believe nothin' about the pullet and rooster eggs; for I know'd well enough some hens laid all round eggs, and some all long ones; some laid 'em white, some brown, and some kinter speckled; for I've watched 'em many and many a time, when I was a little gal, and could ollous tell every hen's egg on my father's farm. Yes, I remember well, old speckle laid brown eggs, the black hen had 'em as white as chalk, and young blue, massy on me! her eggs was as long as my middle finger. Nobody never thought then that shape made he's or she's; it was one o' them blunderbuss book farmers that diskivered that. Wal, as I was a sayin', we had most all rooster

chickens last year, and so we had few pullets to winter over; and then comes that pesky owl—Bill!" she exclaimed, turning to her oldest son, "if you had a shot him instead o' them 'ere good for nothin' chipmucks, you'd a done some good—and carries off half on 'em o'ready, and two o' the best o' our yaller hen turkies I ever seed in all my mortal born days. I sot everything by 'em," said she, wiping a tear from her eye, with a corner of her clean checked apron. "If this is to be our luck, Molly, I may jest as well quit raisin' chickens first as last, and go to hatchin' ducks. Oh, Sargeant! I heerd Miss Goodell, I mean the Major's wife, tell the most oncommon story ye could ever think on. All on us was up there quiltin' last week, when she told us, says she, they had a hen that hatched out ducks eggs one year, and when she went down to the water with 'em, she was so frightened when they swim'd in, about their drownin', that she waded arter 'em, which Miss Goodell seein', to prevent the hen drowin' in arnest, cotched her out, and sowed a piece o' hog's bladder to each foot, makin' it kind o' web fashion; when in she goes and swims about as well as any duck o' the best on 'em. But the strangest thing o' all was, when she had hatched out ducks two years runnin' they sot her on her own eggs agin, and, as soon as they come out, she led down the chickens to the water, and 'cause they wouldn't go in like ducks, she takes 'em up one by one in her bill, and throws 'em in; and when she seed 'em all drown, one arter another, in she goes and would a drownded herself for sorrow, hadn't they run and got her out and shut her up till she forgot it and went to layin' agin."

How long Aunt Nabby would have rattled on at this rate, I am sure I cannot tell; for as Uncle Sim was in the habit of quaintly remarking "when she got a talkin' in arnest, her tongue was like a log rollin' down hill, there was no stop, till it got to the bottom." But fortunately, the water by this time had pretty much all boiled away in the pot containing the cooking pumpkin sauce, and it began to smell as if it were burning, when Mrs. Doolittle jumped up to fill it from the tea kettle boiling by the side for this purpose. So I took the opportunity, as a sailor would say, of putting in my oar, with a talk to the eldest son, and reading the family a lesson on the careless manner in which they kept their poultry.

"Now William," said I, at the same time patting the bright-eyed Molly gently on her rosy cheek, "if you had listened to your pretty sister here last fall, and built her a poultry house, instead of going out squirrel shooting so often, and not killing enough to pay for powder and shot, to say nothing of the loss of your time; you would have saved all the hens that have been lost this winter; besides they would have kept so warm and fat, that they would have been laying more or less these two months past, and you might now have had a great number of eggs which would have brought three times the price in market that they will a month hence. You have not only lost in the poultry carried off by the owls and in not getting the eggs they would have laid, but also in the injury which they do to the roof of the barn and shed, and to the young fruit trees where they roost, as well as in their manure, which you know, I suppose, is highly valuable. If it were all saved and mixed up with ten times its quantity of muck from the swamp, and thus applied to your onion beds, you would get one hundred bushels where you now raise twenty. Thus you see there would be a gain all round, to say nothing of the barns and sheds looking so much neater than they now do; and enough would have been made from a poultry house, which need cost you only a few days' work and a little refuse timber, not only to purchase your sister a new silk dress as your mother and, I dare say, she herself desires, but some books also, and a summer's schooling at the village academy; an advantage she often sighs for, do you not "my dear," said I, turning round and pressing her hand gently in mine. "Oh, yes, said she, Mr. Teltrue, indeed I should;" for owing to her own refined natural taste and the advantages of associating with some young ladies of superior education in the village, at Sabbath school, her language was free from the dialect of her parents; "and then if I should ever come to want, I could myself earn a genteel living by teaching, which I am sure would please me much better than going to work in a factory, or round the neighborhood sewing, although many nice girls do so, and deserve credit for it, too, I know; but I am sure I should like books better, it seems so superior to be taught, and then teach again. When a little girl I tried to teach pussy her letters, I wanted so much to hear her read."

"All right, Molly," said Uncle Sim, who I expected would join his son against me, as was generally the case when I proposed any reforms, espepecially where books were concerned, "and you shall go to the academy next summer, if you will, my darlin'; and I'll take Bill's gun away from him, but you shall have a hen house next fall."

"Massy on me!" shrieked Aunt Nabby, and ran up to the side of her husband, and clasped his arm with the utmost trepidation. "Why, what's the matter now, mammy?" said Uncle Sim, with apparent concern, lifting up his spectacles, and throwing down his nearly finished axe helve. "The owl! The owl agin!" Here we all jumped up and turned our faces to the kitchen windows, when out broke a long hoot, of "Whoo, whoo, hoo-o-o-o-o" of the great horned owl, which I will defy the stoutest heart to hear break suddenly upon it on a cold winter's night, without quaking, especially if the dolorous bird happens to be answered, as was the case this time, with the shrill wail of the screech owl. An Indian's war whoop is scarcely more appalling.

"Where's the gun, Bill? Get the gun, quick, and put in a double charge o' powder, and nine buck shot, mind," said Uncle Sim, shaking his arms and hopping about on both feet, something like an old cock with his head just cut off.

"It's already loaded, father," replied the youngster, who had that moment taken it down from the hooks, where it hung at one end of the kitchen, and was pecking the flint. "Hand her here, then," said Uncle Sim. "Better let me shoot, father," responded the lad, "as I guess I'm the best marksmun and most used to it." But no persuasion would answer with Uncle Sim—"his dander was up," as he termed it—"he warn't a goin' to be hooted at and bullied by an owl, not he, and have all his chickens carried

off in this 'ere way; he'd fire the gun to tarnal splits first." So it was settled that Aunt Nabby, Molly, and the younger boy, should each hold up a lighted candle in both hands at the kitchen windows, for the purpose of dazzling the eyes of the owl; that Bill and myself should sally out with a horn lanthorn towards the opposite side of the barn, where the owl appeared, to attract his attention still more; while Uncle Sim was to creep softly along the garden wall that led to the barn yard, arriving at which place, he would be point blank distance from the gable end of the barn where he thought the object of his wrath had alighted. In a few minutes this was all accomplished, and we were gradually nearing the barn, at the opposite end to Uncle Sim, bearing the lanthorn high in the air, when bang went the gun with a thundering report. Instantly dousing the light, I thought I saw something flit towards the woods near by, and at nearly the same time, I heard a dull rebound on the snow. This was followed by Uncle Sim running towards the house, triumphantly swinging round his head a large bird, and crying out at the top of his voice, "I've got the tarnel critter! I've got him! I'll show him what eatin' chickens is! I guess he found cold lead warn't quite so comfortable in his stomach as soft eggs! I'll teach him to hoot quiet folks at night agin!"

By this time we had all reached the kitchen door, when Uncle Sim burst in with the impatient air of a conqueror just returned from battle, and the stamp of an old war horse—but Oh, "murder!"—what was his chagrin, and Aunt Nabby's, and ours, when upon bringing the light to bear upon his prize, it was not the big horned owl—he, as I feared, had escaped in that flitting flight—and, instead, Uncle Sim had shot the last of his great yellow tom turkies!—a bird which he and Aunt Nabby prized next to their children! So much for want of a poultry house. SERGEANT TELTRUE.

PROSPECTIVE PREMIUMS.

THE following premiums have been offered by the Massachusetts Horticultural Society, for objects which shall have been originated subsequent to the year 1846, and after five years' trial shall have been deemed equal or superior to any varieties of the kind extant at the date the offer was made:—

		Value.
For the best Seedling Pear,	the Society's Gold Medal,	$60
" Apple,	do do	60
" Hardy Grape,	do do	60
" Hardy Rose,	do do	60
" Camellia,	do do	60
" Potato,	do do	60
" Strawberry,	the Lyman Plate,	$50
" Raspberry,	do	40
" Plum,	the Appleton Gold Medal,	40
" Tree Pæonia	do	40
" Cherry,	the Lowell Gold Medal,	40
" Azalia Indica,	do do	40
" Herbaceous Pæonia	do	40

URIC ACID.—This acid, which forms one of the most valuable constituents of Peruvian guano, is nothing more than the whitish, farinaceous-looking part of the dung of all kinds of birds.

LIME.—It has been estimated that carbonate of lime constitutes one eighth of the entire crust of the globe.

LETTERS FROM ABROAD—No. 1.

IN the latter part of August, I safely landed in Oporto. After going through the necessary forms with the authorities on shore, and familiarizing myself with the general features of the place, I set off early on the morning of the 3d inst., in a Portuguese gondola, propelled by two strong Galician oarsmen, in company with three agreeable and highly intelligent merchants, with the view of ascending the Douro into the famous region producing the Port wine.

The river Douro, from the lovely and varied scenery along its banks—its pure bright waters in its calmer moods—and, forming as it does, the main thoroughfare from the very heart of a mountainous, though wealth bearing country, is truly worthy of a sketch in itself. It rises near Soria, in Old Castile, and after traversing Leon and Portugal, for the most part through deep and narrow valleys, receiving in its course, numerous tributary streams, discharges itself into the Atlantic two miles west of Oporto. Formerly, it was navigable only to San Joào da Pesqueira, about 70 miles above its mouth, where a reef of solid rock obstructed its course. But some years since, this impediment was removed by blasting, and now, flat-bottomed boats ascend, without interruption, quite into Spain. Numerous bridges, from time to time, have been built, at various points; but, in early spring, owing to heavy rains and melting snows from the mountain's brow, its turbid, yellow waters sometimes suddenly rise 20 to 40 feet between its lofty and confined banks, forming a mighty torrent of roaring, foaming waves, sweeping the bridges to destruction, by the irirresistible force, with houses, cattle, and humanbeings and their frail barks into the sea.

As the Upper Douro was the place of our destination after leaving Oporto, our object was to proceed, as fast as practicable, without stopping on the way, until we should reach Regoa, where the wine country may be said to commence. In the evening of our first day's journey, we arrived at a village, situated 25 or 30 miles from the sea, called Entre ambos os Rios, where we passed the night. On emerging from the narrow, precipitous gorges near Oporto, the Douro expands into a lake-like scene, with soft and smiling banks, interspersed with hamlets and villas peeping forth from the varied foliage of the willow, the linden, and the elm, while the elevated backgrounds are covered with groves of lofty chestnuts, cork oaks, or the "evergreen pine." As we progress onward, various-shaped hills abruptly rise from the river's bed and its tributary streams, whose willow-lined banks are frequently cultivated in rich profusion, with the almond, the orange, the olive, and the fig, beset here and there with numerous quintas below, and crowned with forests of the laurel, the chestnut, the oak, or stone pine, in bold relief, against the deep-blue sky. And truly,

> "It is a goodly sight to see
> What heaven hath done for this delicious land!
> What fruits of fragrance blush on every tree!
> What goodly prospects o'er the hills expand."

Early the next morning, we sent back our boat to Oporto, having concluded to perform the remainder of our journey by land. As no horse was to be had, we were obliged to put up with his sage

cousin, the mule, the only animal fitted to cross the mountainous region through which we were about to pass. Mounted on our "steeds," attended by a guide and two strong pack mules, we proceeded with a jog-trot pace, along the banks of the river for some distance, where the features of the country appeared less broken, and was cultivated much better than usual. After travelling a few miles we diverged from the Douro, ascending places so steep that it was with great difficulty we could cling to our saddles, at the peril of our limbs, if not our necks. At last, we reached the summit of the hill, descended to a valley crossed by a rapid stream, rose again, and thus continued during the day, through scenery wild and beautiful in the extreme, over river, mountain, and dell, until we arrived among the vine-clad hill sides in the vicinity of Regoa, where, for some days past, I have been pleased to witness in the height of the vintage, the soul-cheering spectacle of preparing to make the luscious Port wine.

Having arrived at the object of my visit, I will now quit romance and impart such information as I may be able to glean, respecting the cultivation of the grape and the manufacture of wine.

The Port wine district, properly speaking, is described, as extending along each bank of the Douro for the distance of about 30 miles, and in most places, is from 6 to 8 miles broad, in some more, and a few less. The greater part of this region is represented as consisting of a reddish-brown limestone, or clayey state, invariably forming the sides of the steepest hills, sometimes so precipitous, that it is no very easy task to climb them, as their elevations are often many hundred feet above the river, with the vines frequently planted to their very summits. These hills are cut into innumerable terraces, 8 or 10 feet broad, with walls, forming their sides, 5 or 6 feet high, built of large stones to support the vines. Every year, unocupied mountains are brought under cultivation; the line of vineyards are gradually extending eastward; and it is believed that the hills are equally suited to the production of the grape, even to the confines of northern Spain.

No one, on contemplating the immense labor incurred in the formation of these vineyards, can accuse the Portuguese of indolence or want of energy, when they have a sufficient stimulant to incite them to action; for a sufficient number of rugged spots still remain, as nature formed them, to show the wild appearance the banks of this part of the Douro must have borne, before they were brought under cultivation; and, in traversing so great an extent of country, which would otherwise have been the habitation of the wild boar, or of the prowling wolf, one is struck with admiration of the work achieved by the perseverance and industry of man.

F. R. S.

Regoa, Lower Douro,
September 16th, 1847.

A Legal Fraud in Making Bread.—In making bread, the more foreign starch there is mixed with the flour, the less increase of weight does the bread acquire. Thus 6 lbs. of flour produce 8 lbs. of bread; but 3 lbs. of potato starch mixed with 3 lbs. of flour produce only 6 lbs. of bread. The reason of this, is the following:—The grains of starch do not imbibe the water, but only are moistened by it; in other words, it only adheres to them. The gluten, on the other hand, imbibes it as a sponge would do, and the more it is kneaded, the more it imbibes, and the water thus imbibed, adds to the weight of the bread. Hence, this species of adulteration, though not a crime in the eye of the law, is still a fraud, because the immediate result of it is, to diminish, at once, the weight and the nutritive quality of the bread.

PRICES OF PRODUCE.

We are informed that many of the farmers are unwilling to sell their produce at present prices, but are holding on for higher. We fear that all those who entertain such expectations will be disappointed. It will be recollected that the crops of grain in the year 1846, were short in Great Britain, Ireland, France, Germany, the Netherlands, and some other parts of Europe; while the potato crop, the great dependence of the most numerous class of people in these countries, was more than half destroyed. This year the grain crop is abundant in all parts of Europe, and the potato crop pretty good in every country save Ireland. The wants of the people, consequently will not be near so great as they were last year; neither are they so able to pay; for famine and disease, in many cases, have nearly or quite exhausted their means. Nevertheless, the United Kingdom would take a considerable quantity of produce from this country, if it could be had at a *moderate price*. But for the past six months, most articles of produce have been nearly as high here as in Great Britain. The result is, it cannot be shipped from this country just now, with a prospect of remunerating the produce merchants, and the English people are looking to Southern Russia, Egypt, Italy, Spain, and Germany for the supply of their wants; thus the farmers of the United States are daily losing sales which they may hereafter deeply regret.

It is well known that the crop of corn throughout our country was full one third larger in 1847 than was ever before known; and other crops were an average; we may therefore look for large arrivals of produce, at every commercial depôt on the seaboard, as soon as navigation opens in the spring. Let the farmers of the Atlantic states think of this, and be advised to sell now while they can get good prices, and they have no competitors to contend against in their own market, or abroad. Great Britain will purchase largely of them, if they will consent at once to sell at such prices as will not make the business too hazardous for the merchants to embark in it.

The breadstuffs alone, to say nothing of beef, pork, lard, butter, and cheese, exported from the United States, ending the fiscal year on the 30th of June, 1846, amounted to $15,987,186; in 1847, to $51,664,475, making the enormous increase in a single year, of $35,677,289! The largest share of this immense sum has gone into the pockets of the farmers, and if they will act judiciously in the sale of their products, they may realize an equally large amount the present year as they did in 1847. Quick sales at moderate profits we have always found to be the best.

Ladies' Department.

HOW TO MAKE GOOD COFFEE.

In order to prepare the beverage called coffee, in perfection, it is necessary to employ the best materials in its manufacture. The finest kind of coffee is that from Mokha, and should be used when a very fine flavor is desired; but for ordinary purposes, the better classes of Java, Brazilian, or West Indian, may be employed. It is a common prac- in some parts of Europe, as well as in the United States, to burn large quantities of coffee at a time adulterated either with an inferior article or with some foreign substance, and ground to a powder in a mill. This mixture is usually put up in boxes, casks, or papers, and offered for sale at the shops. The most common adulteration, in Europe, is the root of chickory, which is added not only to cheapen the article, but to improve the flavor of damaged, or inferior berries. In the United States, the principal articles of adulteration, are roasted barley, rye or other grains.

In making good coffee, the berries should be carefully roasted by a gradual application of the heat, until the aroma be well developed, and the toughness destroyed. If too much heat be used, the volatile and aromatic properties of the coffee will be injured and the flavor impaired; while on the other hand, if the berries be too little roasted, they will produce a beverage with a raw, green taste, very liable to induce sickness, if not vomiting. Coffee, when properly roasted, should be of a lively chocolate-brown color, and should not have lost much more than one sixth of its weight by the process. If the loss exceed one fifth, the flavor will be materially injured.

As soon as roasted the coffee should be placed in a very dry situation, the drier the better; and the sooner it is consumed, the finer will be the flavor, as it will quickly absorb an appreciable amount of moisture from the atmosphere by reason of its hygrometric power. Therefore, the berries should not be ground until a few minutes before being made; and should more be reduced to powder than is wanted for immediate use, the remainder should be shut up in a glass bottle, or a tight tin canister or box.

The shape, or description of the coffee pot, appears to be of but little consequence; though, one furnished with a percolator, or strainer, that will permit a moderately rapid filtration, is perhaps preferable. At least *one ounce of coffee* should be used to make *four common-sized cupfuls*, and if wanted strong, this quantity should be *doubled*. The coffee pot should be heated previously to putting in the coffee, which may be done by pouring in a little boiling water. The common practice of boiling the liquid, after the coffee is put in, is quite unnecessary, as all its flavor and aroma are extracted by water at a temperature of 195°F. Should it be placed, however, over a moderate fire, it *should be just simmered only for a minute*, for long or violent boiling injures its quality.

When coffee is prepared in a common pot, the latter being previously heated, the boiling water should be poured over the powder, and not, as is often the case, put in first. It should then be stirred 4 or 5 minutes, when a cupful should be poured out and returned again into the pot, repeating the operation three or four times, after which, if allowed to repose for a few minutes, the beverage will usually be fine.

Coffee is sometimes clarified by adding a shred of isinglass, a small piece of clean codfish skin, or a spoonful of the white of an egg. An excellent plan of clarifying or *settling* coffee, common in France, is, to place the vessel containing the *made coffee* on the hearth, and sprinkle over the surface of the liquid, a cupful of cold water, which, from its greater gravity, descends to the bottom of the pot, carrying the foulness with it. Another plan, which is sometimes adopted, is, to wrap a cloth previously dipped in cold water, around the coffee pot. This method is commonly practiced by the Arabians in the vicinity of Yemen and Mokha, and is said to rapidly clarify the liquor.

The Parisians, when they use a common coffee pot, generally divide the water into two equal parts. The first portion is poured on the coffee boiling hot, and after infusing 4 or 5 minutes, it is poured off as clear as possible, and the *grounds* are boiled for 2 or 3 minutes with the remaining half of the water. After the latter has deposited its sediment, it is poured off and mixed with the infusion. The object of this process, is, to obtain the whole of the strength, as well as the flavor. The infusion is considered to contain the flavor, and the decoction the strength.

A. J. C.

PHILOSOPHY OF BREAD MAKING.

In the process of making bread, one of the principal objects is to break or burst all the grains of starch, which are contained in the flour, associated with a very fermentable substance, called *gluten*. The finest and best baked bread is made of flour abounding in an elastic gluten, which, in rising in large blisters by the expansion of the gases imprisoned within it, allows each grain of starch to participate in the communication of the heat, and to burst, as it would by boiling. Hence, after baking, if the paste has been well kneaded, we do not find a single grain of starch entire.

The less gluten there is contained in the flour, the duller will be the bread, and the less perfectly it will bake. This is the reason why, other circumstances being alike, the bread made of rye or barley is less nourishing than that of wheat. Wheaten bread will likewise be heaver and less perfect according as the flour has been more or less mixed with other kinds of grain, or with potato starch.

R.

Starching Linen.—In starching linen, the effect will be the same, whether the starch be hot or cold, provided the irons used be properly heated. It is sufficient to mix the starch with a little water, to dip the linen in it, clapping it with the hands, and then apply the hot iron while the linen is still moist. By this means, the grains of starch will burst from the action of the heat of the iron, its membranes will expand as they combine with a portion of the water that is present, its soluble matter will be partly dissolved in the rest of the water, and the linen will be starched and dried by one process.

FOREIGN AGRICULTURAL NEWS.

By the arrival of the Steamer Caledonia, we are in receipt of our foreign journals to the 18th of December.

MARKETS.—*Ashes*, in fair request. *Cotton*, a decline of ⅛ to ¼ *d.* per lb. *Wheat*, and *Flour*, a slight advance. *Indian Corn*, no change. *Beef*, the same. *Pork*, a reduction of 4 *s.* to 5 *s.* per bbl. *Cheese*, improving. In other articles, nothing of interest since our last.

Money was decidedly easier, and good bills were discounted at from 6 to 7 per cent.

Importations of Grain and Provisions into Great Britain and Ireland.—A considerable quantity of bread stuffs and provisions will be wanted from America, in conseqnence of the rot of the potato, and the natural requirements of the people. We advise our farmers to sell now as fast as they can; for we are of opinion that prices are as high at this moment as they will be this year, and the produce of the United States ought to be moving forward so as to ensure a sale before Russia, Germany, and other European countries have an opportunity of supplying the British market.

Smithfield Cattle Show.—This great annual show of fat stock commenced in London on the 8th of December last. We observe that the Short Horns took the first prize in classes 1st, 2d and 8th; and the second prize in classes 1st, 7th, and 9th. The Herefords took the first prize in class 7th; the second in class 2d. The Devons took the first prize in classes 4th and 5th; the second prize in classes 3d and 4th. The first prize in class 3d, was a cross of the Short Horn and Devon. The first price in class 6th, was a Highland ox. The first prize in class 7th, was a cross of a Long Horn and Hereford. The first prize of class 9th, was a Long Horn. The Short-Horn prize steer which took the *gold medal* as the best of their show, it is said, "possessed a *greater number of good points* than perhaps any other beast that ever appeared in Smithfield." Among the most distinguished exhibitors, we notice Prince Albert; the Dukes of Rutland and Richmond; Earls Radnor and Leicester—the latter quite a young man, and son of the celebrated Earl Leicester (Mr. Coke of Norfolk); Lord Portman, &c., &c. We only mention these titled personages to show such of our readers as were not before aware of the fact, that the most distinguished men in England take great pride and pleasure in obtaining prizes by a show of fat animals reared and fed on their own farms.

Reduction of Duties in Austria.—On the 1st of January a reduction was to be announced by the Austrian Government, on the duties upon raw cotton, sugar, and other colonial produce.

Health of Professor Berzelius.—The great Swedish chemist, Berzelius, is so dangerously ill, that his friends despair of his life.

Distilled and Fermented Liquors vs. *Bread.*—It is calculated that Great Britain and Ireland, annually spend about two hundred and fifty millions of dollars for distilled and fermented liquors, and only one hundred and twenty-five millions for bread! Two for the former, for one for the latter!

Composts for Wheat and Carrots.—One of the best crops of wheat I ever grew (48 bushels to the acre), was manured with 10 bushels of salt to 20 of lime to the acre, mixed 3 months, and kept dry before its application. My carrot crop this year was manured with 20 bushels of soot and 6 or 8 of salt to the acre, mixed also 3 or 4 months previously.

To Keep Birds from Fruit, &c.—The following plan, which I discovered by accident, is, I think, perfectly efficacious. One of my servants having by chance broken a looking glass, it occured to me that the broken pieces suspended by a string, so as to turn freely in every direction, would give the appearance of something moving about, which would alarm the birds. I accordingly tried the plan, and find that no bird, not even the most fool hardy of them (a nest of newly-fledged sparrows), dare come near. They had attacked my Peas. On suspending a few bits of the looking glass amongst them, the marauders left the place. The tomtits attacked my Seckel pears (which they seem very partial to); a bit of looking glass suspended in front of the tree put a stop to the mischief. My grapes were next much damaged, before they were ripe, by thrushes and starlings; a piece of looking glass drove these away, and not a grape was touched afterwards. I have before tried many plans, but never found any so effectual as the above.—*Gard. Chron.*

Portuguese Hams.—In a late number was pointed out some of the ingredients for flavoring certain far-famed sausages. It should have been added that they are called lombo de porco (loin of pork), being made of the entire loins cut from the bone and rolled together, before being put into the skins; they are well soaked in a Port-wine brine. The equally famous Lamego (in Portugal) hams, so called, though made all over the northern provinces, are cured with sugar, which gives them that peculiar tenderness and delicacy, and the brine (made of Port wine, sugar, salt, garlic, and sweet herbs), that peculiar flavor for which they are so renowned. The pio, a smaller sausage, is made like the German, the meat being previously cured as above before being minced and put into the skins. Birch wood, myrtle, cistus, and other aromatic shrubs, which abound all over the country, are used for smoking them.—*Ibid.*

East India Cotton.—The Secretary of the Manchester Commercial Association has received a letter of advice from the directors of the East India Company, stating that they had given instructions for forty-five bales of cotton, grown from New Orleans, seed to be forwarded to him from Coimbatore, by the ship Olinda, from Cochin, for sale in Manchester. It is expected that the vessel will arrive very shortly, and that the cotton will be of a superior quality to that previously consigned to the same gentleman by the company, for sale. There have also been received two small samples of cotton grown at Coimbatore under the superintendence of Dr. Wight, from seed sown at the suggestion of the Commercial Association, at an earlier period than usual by about a month. One is a very fair sample indeed, being long in staple and of a beautiful white color; the other is very different, owing to its being injured by "damping," that is, from the damp weather preventing the pods from opening at the proper season.

To Preserve Eggs.—I knew a very experienced and attentive housekeeper, who had a long shelf with some 20 or 30 dozen holes into which she put her eggs, buying them when they were cheap, and turning them upside down every other day. By this means she kept them during the winter fit for the breakfast table as well as for the cook. There is another equally good. Place a hoop on the floor of a room, and within the circumference of the hoop place a quantity of eggs; every other day draw the hoop gently backwards and forwards, and the eggs remain fresh as above. A third way, one practised in my house, is to line the bottom of a drawer with longitudinal partitions loosely papered, and every other day pull the drawer out a few times somewhat gently, as well as just running the hand over them once a week, and the eggs remain fresh as before. A fourth way (a wholesale way) would be to pack a quantity in a small tub, and turn the tub upside down every other day. The eggs may be bought as early as August.—*Gard. Chron.*

Keeping Ice under Straw.—It is stated that ice will keep very well, closely packed on ground sloping each way, and covered three or four feet thick with straw.

Editor's Table.

To Exchange Papers.—We desire to call the particular attention of our exchanges to the advertisement of the Agriculturist on the last page, and hope they will not only giv · it a conspicuous insertion, but direct the notice of their readers to it, in a stirring editorial. Every farmer, and indeed most every other class of people in America, would be greatly benefitted by our paper if they were to read it; and it is certain that they would do this, if they could be properly led to a knowledge of its merits. Please to give a helping hand, then, for the benefit of the bone and sinew of the great republic.

To Southern Subscribers.—When more convenient, subscriptions may be remitted to R. L. Allen, 75 Camp street, New Orleans, instead of to C. M. Saxton, 205 Broadway, New York. Two dollars will pay for three subscribers, or for three years' subscription in advance. Where small bills are not to be had, by remitting a five dollar gold piece, the balance of the amount will be sent back in good New York or southern bills.

To Advertisers and Correspondents.—As the matter of each number of the Agriculturist must necessarily be arranged by the 10th of the month preceding its publication, all those who wish to advertise in season, should avail themselves of the opportunity. Correspondents should forward their communications for publication by the 1st of the month.

Aids to Engl'sh Composition, prepared for Students of all Grades; embracing Specimens and Examples of School and College Exercises, and most of the Higher Departments of English Composition, both in Prose and Verse. By Richard G. Parker. Fifth edition. New York: Harper & Brothers, 82 Cliff st., pp. 430, 12mo. Price 90 cents. In the preparation of this work, it was the design of the author to remove two very serious obstacles which usually beset a writer in his first attempts at composition, to wit: "The difficulty of obtaining ideas, or learning to think, and that of expressing them properly when obtained." So far as we are able to judge, from a hasty perusal, we think this object has been fulfilled. The work treats of *one hundred subjects*, which are indispensable to be known, or understood, before the composition of any American scholar can be considered as finished or complete. The work, therefore, is particularly adapted for all.

Cheese Trade in the United States.—In order to show the increase of this branch of agriculture in this country, we give the following statistics of the amount of cheese that arrived at tide water, on the Hudson, from the canal collector's books:—

Year	lbs.	Exported.
1834	6,340,000	.....
1835	9,586,000	.....
1836	14,060,000	.....
1837	15,560,000	.....
1838	13,810,000	.....
1839	14.530,000	.....
1840	18,820,000	723,713
1841	14,170,000	1,748,781
1942	19,004,000	2,456,677
1843	24.334,000	3,440,144
1844	26,672,500	7,433,145
1845	29,371,000	7,841,187
1846	34,812,513	8,675,390

Madeira Nuts Raised in Western New York.—We were presented yesterday with some Maderia nuts, raised on the farm of Mr. Zadock Warfield, of Farmington, being rare and curious productions, for this climate. The trees from which they were taken, were planted about fourteen years ago, and are now ten feet high, with a trunk five or six inches in diameter. The nut arrives at maturity some time in October. Mr. Warfiel l gathered some, two years ago, that were as well filled, sweet, and palatable to the taste, as any that are imported.—*Exchange Paper.*

Commerce of the N. Y. Canals.—Statement showing the aggregate value of the property which came to the Hudson River on all the Canals in 1846 and 1847.

	1846.	1847.
The Forest	$8,589 291	$8.798,373
Agriculture	33 662.818	54.624,849
Manufactures	4,805.799	6,024,518
Merchandise	276 872	517,694
Other articles	3,770,476	3.127,080
	$51.105,256	$73.092,414

Tonnage going from tide water for the last fourteen years, and also the total tons arriving at tide water, and the aggregate value thereof in market, during the same period:

Years.	Tons from tide water.	Tons to tide water.	Value.
1834	114,608	553 596	$13.405,022
1835	128,910	753.191	20 225,446
1836	131,796	696.347	26,932,470
1837	122.130	611,781	21.822,354
1838	142 868	640,481	23,038,510
1839	142.035	602.128	20.163,199
1840	129,580	669,012	23,213,573
1841	162 715	774,334	27,225.322
1842	123 294	666.626	22,751,013
1843	143.596	836 861	28.453,408
1844	176.737	1.019.094	34 183,167
1845	195,000	1,204.943	45,452,321
1846	212,795	1,362,319	41,105,256
1847	288,267	1,744,283	73,092,414

Amount and Value of Wool.—An Albany correspondent of the Detroit Advertiser, gives the following statement of the amount and value of wool which arrived in Albany, by the canals from the year 1834 up to the close of the navigation in 1847:—

ARRIVED AT TIDE WATER, HUDSON RIVER.

Year.	lbs.	Value.
1834	984,000	$446,787
1835	1,730,000	752,254
1836	2,510,000	1,377,542
1837	146,000	338.454
1838	3 216.000	1,400 719
1839	2.472,000	1.038.753
1840	2 880.000	1,150,490
1841	3,316,000	1,410,659
1842	3.356,000	1,006,544
1843	6,034,000	1.678,428
1844	10,182.000	3 424.015
1845	12.143.000	3.751,002
1846	10,574.000	2,829.796
1847, to Nov. 30	11,224 384	3,336,407

Canal Tolls.—Amount of tolls received on all the New York State Canals, in each of the following year, viz:—

	4th week in Nov.	Total to 1st Dec.
1840	$20,190.37	$1.773,582.51
1841	21.734.11	2,033,264.77
1842	5,380.09	1.748,869.88
1843	14,746.67	2,092.145.60
1844	13,449.02	2,416,037.94
1845	25,584.88	2.646,117.55
1846	21,707.46	2,754,467.25
1847	24,654.75	3.634,847.53

The increase over the season of 1846 may be stated in round numbers at $880,000. To the gross amount Buffalo has contributed more than any other office on the line of the canal—the sum of $1,216,700—being about one third of the whole.

Turpentine.—The North Carolina Newbernian furnishes some statistics in relation to the manufacture of turpentine in North Carolina. The number of barrels of this article annually made in the state is estimated at 800,000, not more than 200,000 of which were shipped in its crude state, the largest portion being distilled in the state. The estimated value to the maker is over $1,700,000 annually. About 4000 or 5000 laborers are engaged in making it. There are now in operation 150 stills, valued at $225,000. This number of stills, to have steady work, would require 600,000 barrels annually, more than is now made, an indication that the still houses are overdone.

Great Yield of Cane.—74,400 lbs. of sugar from 50 acres of cane were produced upon the plantation of J. H. Madison, in Marion county, Florida, last season.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JANUARY 15, 1848.

ASHES, Pots,	per 100 lbs.	$5 62	to	$5 69
Pearls,	do.	7 00	"	7 06
BALE ROPE,	lb.	5	"	6
BARK, Quercitron,	ton,	35 00	"	38 00
BEANS, White,	bush.	75	"	1 25
BEESWAX, Am. Yellow,	lb.	22	"	25
BOLT ROPE,	do.	11	"	12½
BONES, ground,	bush.	45	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	12	"	14
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	11	"	13
COTTON,	do.	6	"	10
COTTON BAGGING, Amer. hemp,	yard,	15	"	16
FEATHERS,	lb.	30	"	40
FLAX, American,	do.	7½	"	9
FLOUR, Northern and Western,	bbl.	6 00	"	6 50
Fancy,	do.	6 50	"	7 00
Southern,	do.	6 00	"	6 25
Richmond City Mills,	do.	7 44	"	7 50
Buckwheat,	do.	—	"	—
Rye,	do.	4 25	"	4 50
GRAIN—Wheat, Western,	bush.	1 20	"	1 40
Southern	do.	1 15	"	1 30
Rye,	do.	83	"	88
Corn, Northern,	do.	75	"	80
Southern,	do.	70	"	76
Barley,	do.	78	"	85
Oats, Northern,	do.	48	"	51
Southern,	do.	44	"	46
GUANO,	do.	2 50	"	3 00
HAY, in bales,	100 lbs	65	"	70
HEMP, Russia, clean,	ton.	225 00	"	235 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	7	"	9
HOPS,	lb.	5	"	8
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 25	"	4 50
Sheet and bar,	lb.	4½	"	5⅛
MEAL, Corn,	bbl.	3 00	"	3 75
Corn,	hhd.	16 50	"	17 00
MOLASSES, New Orleans,	gal.	28	"	30
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	2 00	"	2 25
Pitch,	do	81	"	1 00
Rosin,	do.	60	"	75
Turpentine,	do.	2 25	"	2 50
Spirits Turpentine, Southern,	gal.	37	"	40
OIL, Linseed, American,	do.	58	"	60
Castor,	do.	1 20	"	1 25
Lard,	do.	80	"	85
OIL CAKE,	100 lbs.	1 25	"	1 50
PEAS, Field,	bush.	1 00	"	1 25
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	8 25	"	12 00
Prime,	do.	5 25	"	7 50
Smoked,	lb.	7	"	11
Rounds, in pickle,	do.	5	"	7
Pork, Mess,	bbl.	10 50	"	13 00
Prime,	do.	6 50	"	10 00
Lard,	lb.	7	"	9
Bacon sides, Smoked,	do.	6	"	8
In pickle,	do.	5	"	7
Hams, Smoked,	do.	8	"	13
Pickled,	do.	6	"	10
Shoulders, Smoked,	do.	6	"	9
Pickled,	do.	5	"	7
RICE,	100 lbs.	3 00	"	4 00
SALT,	sack,	1 40	"	1 50
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	5	"	8
Timothy,	bush.	1 75	"	3 50
Flax, clean	do.	1 40	"	1 45
rough,	do.	1 30	"	1 35
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	3
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	4	"	7
SUMAC, American,	ton,	35 00	"	37 00
TALLOW,	lb.	8	"	9
TOBACCO,	do.	2½	"	8
WHISKEY, American,	gal.	25	"	26
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	30	"	35
Half blood	do.	20	"	25
Common do		18	"	20

REMARKS.—Cotton is a trifle higher than at our last, while Flour, Grain, and Pork, are somewhat lower We are of opinion that if there be any change this winter, it can scarcely be to higher prices, and we recommend the farmer's to sell now, as fast as may be convenient.

Money is a little easier, but still difficult to be obtained except on the best of paper.

The Weather here has come round quite mild again, after a short cold spell.

To CORRESPONDENTS.—Communications have been received from G. P. Lewis, W. D., Calvin Coulter, Jr., E. S., Henry A. Field, S. A., Reviewer, R. L. Allen, H. M. W——n, and J. L. Hardeman.

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February, 1848. f2t

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Flushing, L. I., January 1, 1847. 1t

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